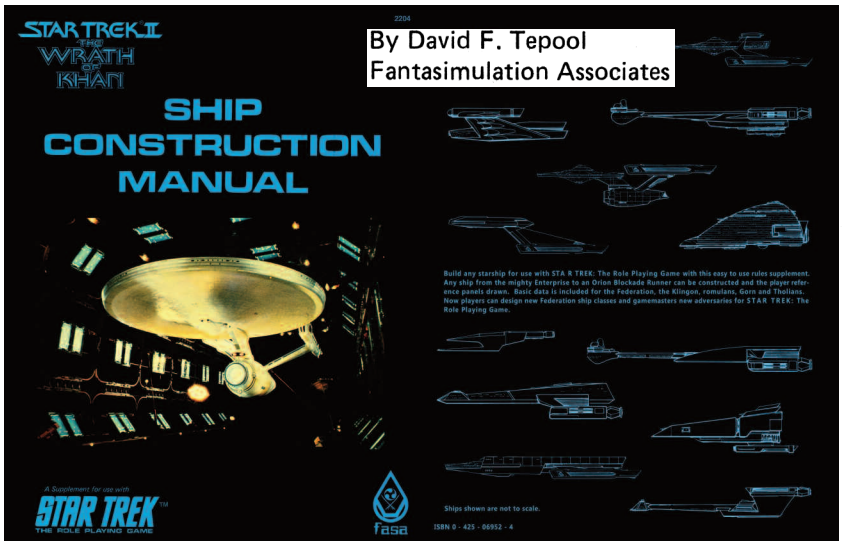
S16 E-Z SHIP CONSTRUCTION



Rules supplement for STAR TREK: The Role Playing Game

Art: Mitch O'Connell
Graphic Design: Dana Knutson

Dedicated to my family and friends for their assistance in difficult times.
David F. Tepool

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EDITOR'S NOTE:

This is a reformat of 1st Edition's Ship Construction Manual. For simple story-telling of dramatic TV-style ship combat using *Book 2: Ship Combat* rules, this supplement will meet your needs. The 11x17 Player Panels can now be found in **Supplement 11: Combat Grids v. 240915** and later revisions.

For Tournement-level ship combat, you **MUST** use FASA's official 2204 *2nd Edition Ship Construction Manual* as paired with Jack Photon's **Supplement 14: STIII ST CBT Tac Sim**. Note that using S14 with S11: E-Z Ship Construction will skew your results. Be ware!

Introduction

STAR TREK: THE ROLE PLAYING GAME was designed as a stand-alone game, requiring no additional material to play it. However, in the design of the ship combat system, it was discovered that a system whereby players and gamemasters could design their own vessels would be very useful. The philosophy behind the contents of this volume would normally be discussed in a lengthy Designer's Notes section at the end of this book. However, due to the nature of this work and how important it is to understand why the system works the way it does and, more importantly, why it was designed the way it was, this designer will depart from the norm and discuss the "whys" of design here and throughout the book.

First, the overall philosophy of STAR TREK: The Role-Playing Game must be looked at. The entire system has to *BE* STAR TREK. The basic game takes care of that. Next, the system has to be simple enough for the beginning gamer to utilize. I did not want a system that took six hours to design a ship to be used for ship combat. Last in the trilogy of design precepts carried over from STAR TREK: The Role Playing Game is the idea that the system had to be fun to use. This ties in directly with number two. If a system is easy, it usually will be more fun to work with than a cumbersome system.

Besides these basic concepts, much more had to be considered in the design process. Number one, we (FASA and FANTASIMULATIONS ASSOCIATES, INC) wanted the book to be complete at the time of publication. This meant all the major known cultures - the Federation, Klingons, Romulans, Orion, Gorn, and the Tholians - had to be included. This leads to problems since a consistent system was wanted for all six. Second, it had to be complete through the second motion picture. This meant that ALL the ships, from the series through the movies, the old Enterprise and the new, the old Klingon D-7 and the new, etc., had to be covered. Third, I wanted a system that would enable those players who wanted to design a ship for the combat system to be able to do so in a minimum amount of time. Fourth, the system had to allow those who wanted to lay out the decks of a 250,000 ton ship to do so. Fifth, I wanted a book that would be a "sourcebook" for those who were laying out those decks. Experienced role-playing gamers may know what a stateroom is, what it looks like, and what is in it, but novices may not. Keeping all of these in mind, we are ready to begin our tour of the dry-dock and learn how to build a starship.

How To Use This Book

There are a few general comments that must be made here.

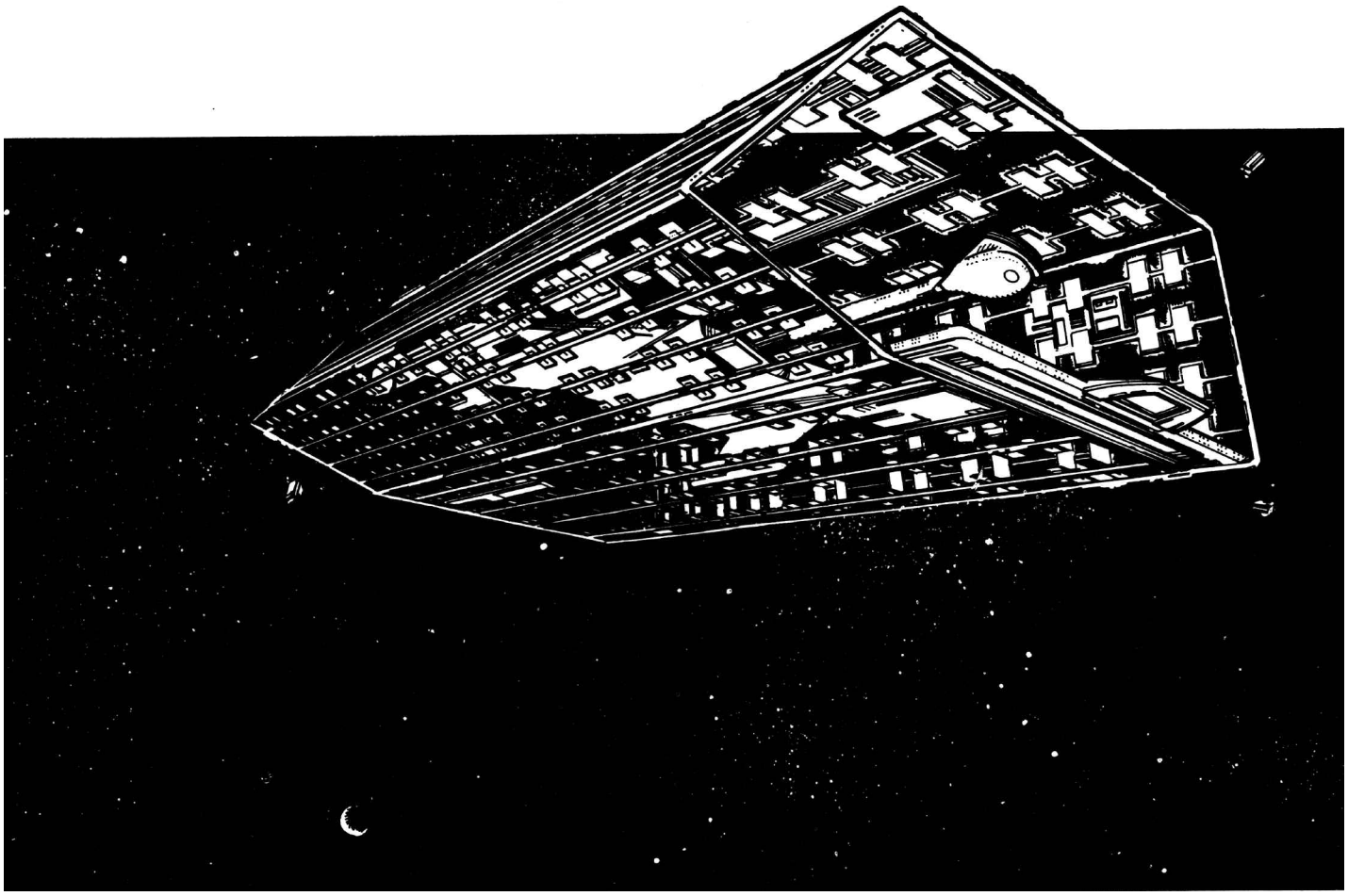
1. All measurements are metric, including tonnage. There is an appendix of tables for English - Metric conversions.
2. All prices are given in Megacredits. The credit was established in the STAR TREK series as the nomenclature used in monetary matters. For more details, see the TRADER CAPTAINS AND MERCHANT PRINCES expansion book. A Megacredit is equal to 1,000,000 credits. It is usually abbreviated MCR. Rather than have prices for each hull/engine combination, consoles, transporters, etc., it was decided that to keep things simple a base price of a fixed amount (in Megacredits) per ton would be used. This MCR amount per ton will vary according to the tonnage class. Once the final tonnage of a ship is calculated, multiply the tonnage by the appropriate cost multiplier to arrive at the total ship cost. These rates are given below:

TONNAGE RANGES	COST MULTIPLIER
0 - 10,000	.001
10,001 - 25,000	.002
25,001 - 50,000	.003
50,001 - 75,000	.004
75,001 - 100,000	.005
100,001 - +	.006

The prime reason for such dramatic price increases was the fact that the larger something is, the more 'crud' creeps into the costs. Look at today's price tags on military hardware to see what we are talking about.

3. Prices, dimensions, etc. were kept the same for all six cultures. This was done so that players could use the system easily without having to remember six different systems. Also, comparisons between systems are easily done. Each culture's equipment has its own inherent strengths and weaknesses, and these are reflected in the charts and tables. A prime example of this is in warp engine design. Federation engines tend to weigh more for the volume occupied because the Federation is more safety-conscious than the other cultures.
4. Keep in mind that this book covers equipment produced over a span of twenty years or more. Technology changes, making older systems obsolete. The new Enterprise completely outclasses its former self, and at a lower price. This is evident today. Look at your pocket calculator or at small computers, such as the one this rulebook was written on. Bearing this in mind, many players will not want to use the older, more expensive systems given here. These date from the TV series and are given for those running their campaign set in that period. Gamemasters need to keep these changes in mind when designing ships for use in their campaign.

This book will show you how to design a ship for the ship combat system first. These basics must be understood before a vessel can be designed in detail. After the basic ship design is worked out, the method used to lay out the full set of control panels for each player will be shown. Last, ideas for designing ships from stem to stern will be discussed. To do this, a 'catalog' of ships' hardware is given.



Ships In Star Trek's Time

Ships in the STAR TREK era come in all shapes and sizes. The small shuttlecraft represent one end of the spectrum, while the Enterprise is close to the other end. Although through the second movie we have seen no larger ship than the Enterprise, provision has been made for larger ships (just in case larger vessels are introduced in future productions). Generally, in all STAR TREK: The Role-Playing Game (ST:RPG) works, the term 'ship' is used in addition to or in place of the term 'starship'. A starship is any vessel, manned or unmanned, capable of interstellar travel. Vessels can be designed that are incapable of interstellar movement. These are referred to as boats. (A holdover from the 'olden' days when small watercraft were generally referred to as boats and larger vessels as ships). These short-haul boats can be of any size, however. They are equipped with impulse engines only. The term 'vessel' is used to refer to ships and boats. Just remember – 'ship', or 'starship', refers to a vessel capable of interstellar travel generally of 2000 or more metric tons, while "boat" refers to a vessel incapable of interstellar travel (except at a loong travel time), and generally of less than 1000 metric tons.

As noted in ST:RPG, travel at warp speeds is extremely fast (See WARP DRIVE under SHIPBOARD SYSTEMS). Because of this vast distortion (necessary for a weekly television series), it is necessary to provide a method of determining travel time at varying warp speeds. Gamemasters and players who feel it desirable to be able to compute and use such travel times in their campaign may find the travel time conversion table useful.

Ships and boats are expensive to build and operate. A 10,000 metric ton (MTn) ship will cost approximately 20,000,000 credits (20MCR) to build. Operating costs are extremely high. Starfleet vessels are maintained through the collection of taxes, tariffs, etc.. Klingon vessels, being military in nature, are maintained in roughly the same manner, as are the Gorn and Romulan. Orion vessels are largely independently owned and are maintained by 'acquiring' operating revenues via "interesting" methods. Since most players will be operating vessels under these conditions, operating expenses and vessel purchasing requirements are not covered in this manual. Those wishing to explore this fascinating diversion are referred to the TRADER CAPTAINS AND MERCHANT PRINCES rulebook, as they will need that volume in order to recoup these expenses.

Acquiring a ship (in game terms) is a simple but expensive process. It is suggested that players desiring to design an unusual vessel (one that would not normally be found for sale) be charged an additional fee of 5% of the purchase price to cover design fees. Most vessels have been built in larger quantity from standard designs. The design fees for these vessels are incorporated in the construction charge. This total charge is for ALL equipment built into the vessel, from computers to warp drive, from impulse engines to bunk beds. This system simplifies figuring the cost of the vessel. This figure reflects the cost to have the ship equipped and ready to travel. It does not include items such as food materials or tricorders.

Ship construction times will vary, depending on which race is building the vessel, size of the vessel, if the construction is government or corporate (corporate is generally quicker), and other considerations. Construction time is up to the gamemaster's discretion, but should generally take from 6 to 36 months.

Design of a vessel can take several approaches, and several of these are discussed here. No one of these methods is more correct than the others. The type of campaign will determine the approach as much as the individual player's personal favorite.

The first method is the doodling method. The player knows what type of vessel he/she is after, but not the size or configuration. Rough sketches are made of the exterior of the ship until an agreeable design is found. Then dimensions of the vessel are roughed out. From this, engine size can be determined. Using the appropriate tables, the hull size/engine type can be determined. Any weapons are placed, making note of the tonnage totals. Number and sizes of decks are determined. From all of this emerges a vessel for the player to use.

The second method is similar to the first. This is called the tonnage method. The gamemaster gives the player(s) a fixed tonnage for a type of vessel. The player(s) then go through the system working from this figure. This is an ideal system for two teams of players to use in a ship combat tournament, forcing them to attempt to design the best ship for the tonnage given. Since weapon tonnage varies greatly, the difference in size of the vessels may be enormous.

The third major method of design is to give the player(s) a specific mission for a vessel – be it set weapons, crew size, research purpose, etc. – and design a vessel toward that end. Size of the vessel may or may not be present.

There are many other methods of design from a game standpoint. Everyone will find his/her own favorite. The important point to remember is that the design process works with them all.

DIFFERENCES IN DESIGN

It has been noted that there are six cultures covered here. (Each of these cultures actually is composed of many types of beings as we know them). The Federation, Klingons, Romulans, Tholians, Gorn, and Orions are all covered in this volume. This was done so that this book would be as complete as possible at the time of its publication. Future STAR TREK works may require additions to this volume as new life forms are encountered. These additions will be included as needed in game references on the appropriate work.

The different design philosophies and technologies inherent in each culture will be noticed. The Federation's equipment is generally better than the other five, but not always. The Klingons lean toward variety. The Romulans attempt to strike a happy medium between the two. Keep in mind that the Romulans have been known to purchase vessels from the Klingons (as evidenced by their use of Klingon D-7 Battlecruisers). Not much has been known about Tholian technology until now. Their vessels generally are smaller than the others. The Gorn continue in their philosophy – "If it works use it; if it doesn't work, push it until it does". The Orions do not have many of their own systems at present. This is due to their unique methods of "procuring" available vessels at minimal expense. The few engines and weapons they do have are generally better than anything presently in use in the galaxy. It will be noticed that the Orion equipment, however, is designed for use on small vessels. The Orion equipment may be found on other races' vessels occasionally, as evidenced by the Chameleon class ships, such as the one owned by Cyrano Jones.

Designing For Ship Combat

The process of designing a ship to use in the ship combat system is fast and easy. For purposes of illustration the Larson class destroyer will be used throughout the explanation. Since this vessel was included in the ST:RPG package all readers should be familiar with it.

Remember that in designing for ship combat only the following areas need to be considered:

1. Ship size/warp engine combination
2. Impulse engine size
3. Weapons placement/shield selection
4. Crew complement (needed for casualty-crew efficiency data)
5. Superstructure values
6. Damage chart selection

After these areas are covered in detail, the procedure used to design the full sets of player panels used in the combat system will be detailed.

After much deliberation and consultation it was decided that the reason for this was that the shielding for the weapons and engines had to be made of a very dense, high mass material. The matter/anti-matter mixture itself probably contributed greatly to this weight. So it was postulated that a new material had been manufactured by STAR TREK's time that had the qualities needed: nigh-mass to size ratio with the proper shielding qualities.

SHIP SIZE/WARP ENGINE SELECTION

Normally, the first choice to be made in vessel design s the size of the vessel in metric tons. From the appropriate tables the correct warp engine(s) can be selected. This will yield data on movement points, game power units, stress charts to be used, and warp speed potential.

One item to be noted here is the enormous mass of the warp engines. Here again, consistency with given STAR TREK data had to be maintained. The Enterprise was given in the series as weighing 190,000 metric tons. After much computation it was decided that the ship minus weapons and warp engines could only weigh approximately 25,000 to 30,000 metric tons (based on known volume). This meant that the engines and few weapons had to weigh roughly 160,000 metric tons!

(A type of near-neutronium material, perhaps . . .). This justifies the high weights even on the smaller vessels as given on the tables following. Also note that as stated in ST:RPG, warp engines are normally located away from the hull of a vessel where they can be easily jettisoned if trouble develops with the engine.

The headings on the warp engine/hull size tables are as follows:

1. TYPE - This is the Federation code assigned to the particular engine design. The first letter designates the origin of design: Federation (F), Klingon (K), Romulan (R), Tholian (T), Gorn (G), or Orion (L). The second letter designates the type of equipment: here a W is used for warp engine. The third letter is a unique letter for each engine type within a particular race. A is the first engine, B the second, and so on. These letters have no particular use other than to keep each engine type unique unto itself. For example, the first listing in the Federation Warp Engine section is FWA.

2. SIZE (IN METRIC TONS) - This is the weight of the engine in metric tons. Please note this is the weight of each engine. When two engines are used in tandem, double the weight. For example, RWC, the third engine type in the Romulan section, is 20,000 metric tons. If two were used, the total engine weight would be 40,000 metric tons.

3. VOLUME (IN CUBIC METERS) - This is the normal volume of the engine in cubic meters. For example, GWB (on the Gorn table) is 5000 cubic meters. Engines do not always have the same configuration. The Enterprise from the TV series has two FWF engines in cylindrical form. The same engines on another vessel may be more in the shape of a cube. Form does not have to be consistent from vessel class to vessel class. Within a class, however, the engine form will be consistent. In other words, all Constitution class ships will have FWF engines in cylindrical form. The Enterprise seen in the movies was being refitted with new engines in a slightly different configuration. As the rest of the Constitution class is refitted they will conform to this rule. This rule allows for numerous style changes without having to use numerous engines. Many times an engine will be drawn larger than it would need be. This allows for the artist in all of us to be creative. The difference in size can be attributed to deliberate camouflage, extra shielding due to the engine being closer to the hull than normal, or many other reasons left to the creative designer's imagination.

4. NUMBER OF ENGINES IN USE - Either one or two, depending on engine type and hull size. If the number of engines you want are not listed for a particular hull size, then that configuration is not possible. Three engines are NOT possible at the time this handbook was written. The matter/anti-matter mixture is hard enough to keep in balance with two engines, let alone three. It may be that in the near future (in a future STAR TREK work) there will be a ship with three engines. If this happens there will be rules to cover this configuration in the volume covering that work.

5. GAME POWER UNITS - This is the number of power units that are generated for use in ship combat by each engine in use. For example, OWA in a 6001 - 10,000 ton vessel would produce 17 game power units. For ships with two engines, double the figure given. For OWA in a 12,001 -15,000 vessel each engine produces 19 game power units, for a total of 38. As you can see, some engines individually produce more power when used in tandem. Other pairs actually produce less each than if used by themselves. This is the number of points available (along with impulse power) to power shields, power weapons, and move on the game map. As explained in ST:RPG, this is the excess power after warp speed usage available for use in the game.

6. MANEUVER POINTS RATIO – This is a ratio of how many game power units it takes for each point of maneuver desired. For example, on the Klingon KWB engine on a 12,000 ton vessel (second line of the KWB engine series), it takes two points of power to yield one point of movement. This ratio varies not only from engine to engine, but also by how many engines are in use and what the overall tonnage of the vessel is.

7. STRESS CHARTS - These are the stress charts used for the given engine configuration. Each listing is a two-letter code. For example, for the Tholian engine TWB on a 25,000 ton ship (one engine), the stress code is B/H. The first letter, B, refers to stress chart B, and is used as the Engine Stress column on the Helm's Turn Stress Chart. The second letter, H, refers to stress chart H and is used as the Superstructure Stress column on the Helm panel. The STRESS CHARTS follow the ENGINE TABLES.

8. WARP SPEEDS: SAFE/EMERGENCY - This lists the warp speeds attainable with the configuration given. For example, an FWA engine in a vessel of 12,000 metric tons would allow speeds of warp 6 for safe and warp 8 for emergency. The safe speed is the highest speed that can be maintained for a reasonable period of time. ("Reasonable" is normally defined as 10 days. For every day over this, the Chief Engineering Officer must make a successful Warp Drive Technology skill roll. Each day there is a cumulative 5% penalty added to the roll, making it continuously harder to maintain this speed.) Speeds less than this can be maintained as long as crew and supplies hold out. Emergency speeds can be maintained ONLY by the engineer making a saving roll on Warp Drive Technology skill. Every four hours that emergency speed is maintained adds a 15% penalty to the skill roll. As you can see, emergency speed could not be maintained for more than a day by even the best of engineers. Also, every four hour period at emergency speed produces one point of engine stress and one point of superstructure stress. These must be kept track of and can be reduced by the engineer making skill rolls as outlined in ST:RPG. They cannot be reduced, however, while the ship is at top safe speed or emergency speed.

9. SHIP SIZE - This is the overall tonnage of the vessel with the given engine configuration. For example, a Gorn ship with two GWB engines could be between 24,001 and 50,000 metric tons. If the vessel being constructed was wanted to have a speed of warp 6 safe / 7 emergency then it would have to be in the 32,001 to 42,000 ton range.

This total tonnage includes EVERYTHING in the design process - warp engine(s), impulse engine, weapons, deck area, etc. When a vessel is being designed, a 30% margin of error is allowed. This is to allow for equipment inherent in the overall design but not necessarily drawn in the deck plans, such as conduits, defensive shielding equipment, etc. If you are attempting to design a 30,000 ton vessel and your equipment adds up to within plus or minus 30% of 30,000 tons (21,000 to 39,000) then you are within the margin of error.

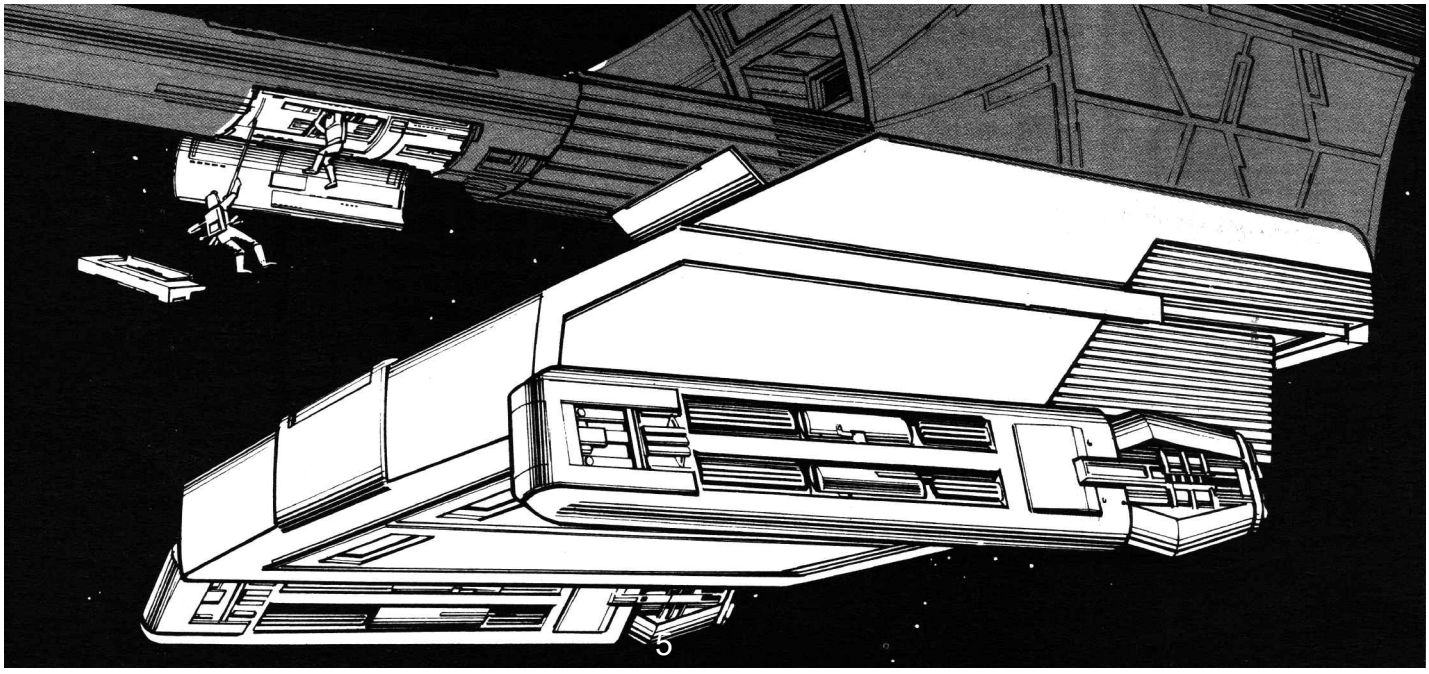
USING THE WARP ENGINE TABLES

As noted previously, normally the first decision to be made in the vessel design process is the choice of engine/vessel size. Using the information in the tables, and keeping in mind the size or type of vessel being designed, one of the engine/hull combinations is chosen. Once this choice is made, the rest of the equipment to be included can be chosen.

Note that there is often more than one warp engine variant that can be used for a particular tonnage you may be working with. The decision of which one to use is based upon the gamemaster's and players' desires, the scenario the vessel will be used in, the power generated, the time period the ship will be used in, and more. Generally, the lower the third alphabetic code letter, the earlier the model of engine. All engine types will be found in use in adventures based on the movies, while only the earlier engines will be found in use in adventures based on the TV series.

Let's use our example, the Larson class destroyer. The Larson uses the FWC engine. Looking at the tables for Federation warp engines, we see that the Larson would be on line two of the FWC engine, as the ship weighs 95,000 metric tons and has only one engine. From this line, we see that the engine is 35,000 cubic meters in volume. The engine generates 20 power units for game use. The ratio of 2/1 indicates that it will take two points of engine power to yield one point of movement on the game map. Stress charts M/K are used for the engine/superstructure stress charts on the Helm panel. The ship's safe speed is warp 7, with an emergency speed of warp 9.

This data is very important in deciding what equipment can be used on the vessel, as the deck space, weapons, engines, etc., can not add up to more than the ship's total tonnage. Using the Larson, we have decided upon a ship with a 95,000 tonnage (since this was given in ST:RPG). The FWC engine is 60,000 metric tons. The 95,000 minus the 60,000 leaves us with 35,000 tons to use for weapons, decks, and impulse engine.



Warp Engine Tables

FEDERATION

TYPE	SIZE (M TONS)	VOLUME	NO. OF ENG IN USE	GAME POW UNITS	MAN PTS RATIO	STRESS CHART	WARP SPDS SAFE/EMERG	SHIP SIZE
FWA	2400mt	$90m^3$	1	6	1/1	F/G	7.5/9	≤ 10,000
FWA	2400mt	$90m^3$	1	4	2/1	F/G	6/8	10,001 - 15,000
FWA	2400mt ea.	$90m^3$ea.	2	6ea.	1.5/1	G/K	7.5/9	10,000
FWA	2400mt ea.	$90m^3$ea.	2	5ea.	3/1	G/K	6/8	10,001 - 15,000
FWA	2400mt ea.	$90m^3$ea.	2	4ea.	4.5/1	G/K	5/7	15,001 - 22,000
FWB	18,000mt	$10,000m^3$	1	14	1/1	L/M	6/7	≤ 22,000
FWB	18,000mt	$10,000m^3$	1	9	2/1	L/M	5/6	22,001 - 55,000
FWB	18,000mt ea.	$10,000m^3$ea.	2	14ea.	2/1	M/O	8/9	≤ 40,000
FWB	18,000mt ea.	$10,000m^3$ea.	2	9ea.	2/1	M/O	7/8	40,001 - 55,000
FWB	18,000mt ea.	$10,000m^3$ea.	2	5ea.	3/1	M/O	6/7	55,001 - 75,000
FWC	60,000mt	$35,000m^3$	1	24	2/1	M/K	8/10	60,001 - 70,000
FWC	60,000mt	$35,000m^3$	1	20	2/1	M/K	7/9	70,001 - 100,000
FWC	60,000mt	$35,000m^3$	1	14	3/1	M/K	5/7	100,001 - 150,000
FWC	60,000mt ea.	$35,000m^3$ea.	2	26ea.	2/1	O/M	9/11	120,001 - 140,000
FWC	60,000mt ea.	$35,000m^3$ea.	2	22ea.	2/1	O/M	8/10	140,001 - 160,000
FWC	60,000mt ea.	$35,000m^3$ea.	2	16ea.	3/1	O/M	7/9	160,001 - 175,000
FWD	50,000mt	$36,000m^3$	1	20	2/1	K/F	7/9	50,001 - 70,000
FWD	50,000mt	$36,000m^3$	1	16	2/1	K/F	6/8	70,001 - 95,000
FWD	50,000mt	$36,000m^3$	1	12	3/1	K/F	5/7	95,001 - 120,000
FWD	50,000mt	$36,000m^3$	1	8	4/1	K/F	4/6	120,001 - 150,000
FWD	50,000mt ea.	$36,000m^3$ea.	2	24ea.	2/1	M/G	8/9	100,001 - 110,000
FWD	50,000mt ea.	$36,000m^3$ea.	2	18ea.	2/1	M/G	6/8	110,001 - 140,000
FWD	50,000mt ea.	$36,000m^3$ea.	2	13ea.	3/1	M/G	5/7	140,001 - 180,000
FWD	50,000mt ea.	$36,000m^3$ea.	2	9ea.	4/1	M/G	4/6	180,001 - 225,000
FWE	40,000mt	$36,000m^3$	1	10	3/1	F/J	7/9	40,001 - 125,000
FWE	40,000mt	$36,000m^3$	1	6	4/1	F/J	6/8	125,001 - 200,000
FWE	40,000mt ea.	$36,000m^3$ea.	2	13ea.	3/1	G/K	7/9	80,001 - 125,000
FWE	40,000mt ea.	$36,000m^3$ea.	2	8ea.	4/1	G/K	6/8	125,001 - 200,000
FWE	40,000 mt ea.	$36,000m^3$ea.	2	5ea.	5/1	G/K	5/7	200,001 - 250,000
FWF	62,000mt	$36,000m^3$	1	16	4/1	F/K	6/8	62,001 - 125,000
FWF	62,000mt	$36,000m^3$	1	10	6/1	F/K	5/7	125,001 - 200,000
FWF	62,000mt ea.	$36,000m^3$ea.	2	20ea.	4/1	G/L	6/8	124,001 - 200,000
FWF	62,000mt ea.	$36,000m^3$ea.	2	15ea.	6/1	G/L	5/7	200,001 - 300,000
FWG	50,000mt	$34,000m^3$	1	24	4/1	C/D	8/10	50,001 - 125,000
FWG	50,000mt	$34,000m^3$	1	20	6/1	C/D	7/9	125,001 - 200,000
FWG	50,000mt ea.	$34,000m^3$ea.	2	26ea.	4/1	D/F	8/10	100,001 - 200,000
FWG	50,000mt ea.	$34,000m^3$ea.	2	20ea.	6/1	D/F	7/9	200,001 - 300,000
FWH	4,000mt	$4,000m^3$	1	10	2/1	P/Q	5/6	≤ 20,000

KLINGON

TYPE	SIZE (M TONS)	VOLUME	NO. OF ENG IN USE	GAME POW UNITS	MAN PTS RATIO	STRESS CHART	WARP SPDS SAFE/EMERG	SHIP SIZE
KWA	2500mt	$330m^3$	1	10	1/1	P/Q	6/7	2,501 - 6,000
KWA	2500mt	$330m^3$	1	7	2/1	P/Q	5/6	6,001 - 12,000
KWA	2500mt ea.	$330m^3$ea.	2	12ea.	2/1	P/Q	8/9	5,001 - 8,000
KWA	2500mt ea.	$330m^3$ea.	2	10ea.	2/1	Q/R	7/8	8,001 - 12,000
KWA	2500mt ea.	$330m^3$ea.	2	6ea.	3/1	Q/R	6/7	12,001 - 18,000
KWB	7000mt	$1000m^3$	1	12	1/1	O/P	6/7	7,001 - 10,000
KWB	7000mt	$1000m^3$	1	9	2/1	O/P	5/6	10,001 - 15,000
KWB	7000mt ea.	$1000m^3$ea.	2	12ea.	2/1	P/Q	8/9	14,001 - 17,000
KWB	7000mt ea.	$1000m^3$ea.	2	9ea.	2/1	P/Q	7/8	17,001 - 20,000
KWB	7000mt ea.	$1000m^3$ea.	2	6ea.	3/1	P/Q	6/7	20,001 - 24,000
KWC	25,000mt	$4000m^3$	1	22	2/1	L/M	7/8	25,001 - 40,000
KWC	25,000mt	$4000m^3$	1	18	3/1	L/M	6/7	40,001 - 80,000
KWC	25,000mt ea.	$4000m^3$ea.	2	22ea.	3/1	L/O	9/10	50,001 - 65,000
KWC	25,000mt ea.	$4000m^3$ea.	2	18ea.	3/1	L/O	8/9	65,001 - 90,000
KWC	25,000mt ea.	$4000m^3$ea.	2	14ea.	4/1	L/O	7/8	90,001 - 120,000
KWD	30,000mt	$5000m^3$	1	16	5/1	K/M	5/7	30,001 - 50,000
KWD	30,000mt	$5000m^3$	1	14	6/1	K/M	4/6	50,001 - 100,000
KWD	30,000mt	$5000m^3$	1	12	7/1	K/M	3/5	100,001 - 125,000
KWD	30,000mt	$5000m^3$	1	10	8/1	K/M	2/4	125,001 - 150,000
KWD	30,000mt ea.	$5000m^3$ea.	2	20ea.	3/1	L/N	7/9	60,001 - 75,000
KWD	30,000mt ea.	$5000m^3$ea.	2	18ea.	4/1	L/N	6/8	75,001 - 150,000
KWD	30,000mt ea.	$5000m^3$ea.	2	14ea.	5/1	L/N	5/7	150,001 - 200,000
KWD	30,000mt ea.	$5000m^3$ea.	2	12ea.	6/1	L/N	4/6	200,001 - 225,000
KWE	40,000mt	$6000m^3$	1	21	4/1	H/L	6/8	40,001 - 60,000
KWE	40,000mt	$6000m^3$	1	14	5/1	H/L	5/7	60,001 - 100,000
KWE	40,000mt	$6000m^3$	1	9	6/1	H/L	4/6	100,001 - 125,000
KWE	40,000mt	$6000m^3$	1	6	7/1	H/L	3/5	125,001 - 150,000
KWE	40,000mt ea.	$6000m^3$ea.	2	24ea.	3/1	J/M	9/10	80,001 - 95,000
KWE	40,000mt ea.	$6000m^3$ea.	2	20ea.	3/1	J/M	8/9	95,001 - 150,000
KWE	40,000mt ea.	$6000m^3$ea.	2	18ea.	4/1	J/M	7/8	150,001 - 200,000
KWE	40,000mt ea.	$6000m^3$ea.	2	16ea.	5/1	J/M	6/7	200,001 - 250,000

THOLIAN

TYPE	SIZE (M TONS)	VOLUME	NO. OF ENG IN USE	GAME POW UNITS	MAN PTS RATIO	STRESS CHART	WARP SPDS SAFE/EMERG	SHIP SIZE
TWA	2400mt	$120m^3$	1	10	1/1	A/B	9/10	2,401 - 10,000
TWA	2400mt	$120m^3$	1	8	2/1	A/B	8/9	10,001 - 15,000
TWA	2400mt ea.	$120m^3$ea.	2	12ea.	1/1	D/F	9/10	4,801 - 10,000
TWA	2400mt ea.	$120m^3$ea.	2	10ea.	2/1	D/F	8/9	10,001 - 15,000
TWA	2400mt ea.	$120m^3$ea.	2	8ea.	3/1	D/F	7/8	15,001 - 22,500
TWB	8000mt	$3500m^3$	1	18	2/1	B/H	8/10	8,001 - 20,000
TWB	8000mt	$3500m^3$	1	14	3/1	B/H	7/9	20,001 - 35,000
TWB	8000mt ea.	$3500m^3$ea.	2	18ea.	2/1	D/J	9/10	16,001 - 22,000
TWB	8000mt ea.	$3500m^3$ea.	2	14ea.	3/1	D/J	8/10	22,001 - 35,000
TWB	8000mt ea.	$3500m^3$ea.	2	10ea.	4/1	D/J	7/9	35,001 - 45,000
TWC	25,000mt	$12,000m^3$	1	22	2/1	C/E	7/8	25,001 - 50,000
TWC	25,000mt	$12,000m^3$	1	18	2/1	C/E	6/7	50,001 - 75,000
TWC	25,000mt ea.	$12,000m^3$ea.	2	22ea.	3/1	F/H	7/8	50,001 - 75,000
TWC	25,000mt ea.	$12,000m^3$ea.	2	18ea.	3/1	F/H	6/7	75,001 - 100,000
TWC	25,000mt ea.	$12,000m^3$ea.	2	14ea.	3/1	F/H	5/6	100,001 - 125,000

ROMULAN

TYPE	SIZE (M TONS)	VOLUME	NO. OF ENG IN USE	GAME POW UNITS	MAN PTS RATIO	STRESS CHART	WARP SPDS SAFE/EMERG	SHIP SIZE
RWA	3000mt	150m^3	1	8	1/1	M/O	6/7	3,001 - 8,000
RWA	3000mt	150m^3	1	6	2/1	M/O	5/6	8,001 - 15,000
RWA	3000mt ea.	150m^{3}ea.	2	8ea.	1/1	M/P	8/9	6,001 - 8,000
RWA	3000mt ea.	150m^{3}ea.	2	6ea.	2/1	M/P	7/8	8,001 - 15,000
RWA	3000mt ea.	150m^{3}ea.	2	4ea.	3/1	M/P	6/7	15,001 - 20,000
RWB	8000mt	2500m^3	1	12	1/1	K/O	6/7	8,001 - 15,000
RWB	8000mt	2500m^3	1	10	2/1	K/O	5/6	15,001 - 25,000
RWB	8000mt ea.	2500m^{3}ea.	2	12ea.	2/1	M/P	8/9	16,001 - 22,000
RWB	8000mt ea.	2500m^{3}ea.	2	10ea.	2/1	M/P	7/8	22,001 - 30,000
RWB	8000mt ea.	2500m^{3}ea.	2	8ea.	3/1	M/P	6/7	30,001 - 50,000
RWC	20,000mt	13,500m^3	1	18	2/1	K/O	6/8	20,001 - 32,000
RWC	20,000mt	13,500m^3	1	15	2/1	K/O	5/7	32,001 - 40,000
RWC	20,000mt ea.	13,500m^{3}ea.	2	18ea.	2/1	M/P	6/8	40,001 - 48,000
RWC	20,000mt ea.	13,500m^{3}ea.	2	15ea.	2/1	M/P	5/7	48,001 - 58,000
RWC	20,000mt ea.	13,500m^{3}ea.	2	12ea.	3/1	M/P	4/6	58,001 - 70,000
RWD	30,000mt	18,000m^3	1	18	2/1	O/Q	7/8	30,001 - 60,000
RWD	30,000mt	18,000m^3	1	15	2/1	O/Q	6/7	60,001 - 100,000
RWD	30,000mt	18,000m^3	1	12	3/1	O/Q	5/6	100,001 - 125,000
RWD	30,000mt	18,000m^3	1	9	4/1	O/Q	4/5	125,001 - 150,000
RWD	30,000mt ea.	18,000m^{3}ea.	2	20ea.	3/1	O/Q	7/8	60,001 - 85,000
RWD	30,000mt ea.	18,000m^{3}ea.	2	16ea.	3/1	O/Q	6/7	85,001 - 150,000
RWD	30,000mt ea.	18,000m^{3}ea.	2	12ea.	4/1	O/Q	5/6	150,001 - 200,000
RWD	30,000mt ea.	18,000m^{3}ea.	2	8ea.	4/1	O/Q	4/5	200,001 - 225,000
RWE	40,000mt	23,000m^3	1	9	3/1	H/J	7/8	40,001 - 125,000
RWE	40,000mt	23,000m^3	1	6	4/1	H/J	6/7	125,001 - 200,000
RWE	40,000mt ea.	23,000m^{3}ea.	2	12ea.	3/1	I/L	7/8	80,001 - 125,000
RWE	40,000mt ea.	23,000m^{3}ea.	2	9ea.	4/1	I/L	6/7	125,001 - 200,000
RWE	40,000mt ea.	23,000m^{3}ea.	2	6ea.	5/1	I/L	5/6	200,001 - 250,000
RWF	50,000mt	26,000m^3	1	15	3/1	F/K	7/9	50,001 - 125,000
RWF	50,000mt	26,000m^3	1	12	4/1	F/K	6/8	125,001 - 200,000
RWF	50,000mt ea.	26,000m^{3}ea.	2	18ea.	4/1	G/L	7/9	100,001 - 200,000
RWF	50,000mt ea.	26,000m^{3}ea.	2	15ea.	5/1	G/L	6/8	200,001 - 275,000
RWG	70,000mt	40,000m^3	1	22	4/1	D/F	7/9	70,001 - 125,000
RWG	70,000mt	40,000m^3	1	18	6/1	D/F	6/8	125,001 - 200,000
RWG	70,000mt ea.	40,000m^{3}ea.	2	24ea.	4/1	G/L	7/9	140,001 - 220,000
RWG	70,000mt ea.	40,000m^{3}ea.	2	20ea.	6/1	G/L	6/8	220,001 - 300,000

ORION

TYPE	SIZE (M TONS)	VOLUME	NO. OF ENG IN USE	GAME POW UNITS	MAN PTS RATIO	STRESS CHART	WARP SPDS SAFE/EMERG	SHIP SIZE
OWA	6000mt	148m^3	1	17	1/1	F/D	7/9	6,001 - 10,000
OWA	6000mt	148m^3	1	15	2/1	F/D	8/10	10,001 - 15,000
OWA	6000mt ea.	148m^{3}ea.	2	19ea.	2/1	G/F	6/8	12,001 - 15,000
OWA	6000mt ea.	148m^{3}ea.	2	17ea.	2/1	G/F	7/9	15,001 - 18,000
OWA	6000mt ea.	148m^{3}ea.	2	15ea.	3/1	G/F	8/10	18,001 - 25,000
OWB	1400mt	32m^3	1	8	1/1	C/D	5/8.5	1,401 - 5,000
OWB	1400mt	32m^3	1	6	1/1	C/D	4/7	5,001 - 10,000
OWB	1400mt ea.	32m^{3}ea.	2	9ea.	2/1	D/F	6/9	2,801 - 6,000
OWB	1400mt ea.	32m^{3}ea.	2	7ea.	2/1	D/F	5/8	6,001 - 12,000

TYPE	SIZE (M TONS)	VOLUME	NO. OF ENG IN USE	GAME POW UNITS	MAN PTS RATIO	STRESS CHART	WARP SPDS SAFE/EMERG	SHIP SIZE
GWA	3500mt	350m^3	1	8	1/1	Q/R	5/6	3,501 - 8,000
GWA	3500mt	350m^3	1	6	2/1	Q/R	4/5	8,001 - 12,000
GWA	3500mt ea.	350m^{3}ea.	2	9ea.	1/1	Q/R	7/8	7,001 - 10,000
GWA	3500mt ea.	350m^{3}ea.	2	6ea.	2/1	Q/R	6/7	10,001 - 15,000
GWA	3500mt ea.	350m^{3}ea.	2	4ea.	3/1	Q/R	5/6	15,001 - 18,000
GWB	12,000mt	5000m^3	1	10	1/1	M/O	6/7	12,001 - 25,000
GWB	12,000mt	5000m^3	1	8	2/1	M/O	5/6	25,001 - 35,000
GWB	12,000mt ea.	5000m^{3}ea.	2	12ea.	1/1	O/P	7/8	24,001 - 32,000
GWB	12,000mt ea.	5000m^{3}ea.	2	9ea.	2/1	O/P	6/7	32,001 - 42,000
GWB	12,000mt ea.	5000m^{3}ea.	2	6ea.	3/1	O/P	5/6	42,001 - 50,000
GWC	18,000mt	10,000m^3	1	20	3/1	K/O	6/8	18,001 - 40,000
GWC	18,000mt	10,000m^3	1	16	4/1	K/O	5/7	40,001 - 75,000
GWC	18,000mt ea.	10,000m^{3}ea.	2	22ea.	4/1	M/P	7/9	36,001 - 45,000
GWC	18,000mt ea.	10,000m^{3}ea.	2	18ea.	5/1	M/P	6/8	45,001 - 65,000
GWC	18,000mt ea.	10,000m^{3}ea.	2	14ea.	6/1	M/P	5/7	65,001 - 100,000
GWD	40,000mt	18,000m^3	1	14	5/1	O/M	5/7	40,001 - 75,000
GWD	40,000mt	18,000m^3	1	12	6/1	O/M	4/6	75,001 - 100,000
GWD	40,000mt	18,000m^3	1	10	7/1	O/M	3/5	100,001 - 125,000
GWD	40,000mt	18,000m^3	1	8	8/1	O/M	2/4	125,001 - 150,000
GWD	40,000mt ea.	18,000m^{3}ea.	2	18ea.	4/1	Q/P	7/8	80,001 - 120,000
GWD	40,000mt ea.	18,000m^{3}ea.	2	16ea.	5/6	Q/P	6/7	120,001 - 160,000
GWD	40,000mt ea.	18,000m^{3}ea.	2	14ea.	6/1	Q/P	5/6	160,001 - 200,000
GWD	40,000mt ea.	18,000m^{3}ea.	2	12ea.	7/1	Q/P	4/5	200,001 - 250,000
GWE	60,000mt	40,000m^3	1	22	4/1	Q/R	5/6	60,001 - 110,000
GWE	60,000mt	40,000m^3	1	18	6/1	Q/R	4/5	110,001 - 150,000
GWE	60,000mt ea.	40,000m^{3}ea.	2	22ea.	5/1	Q/R	4/5	120,001 - 210,000
GWE	60,000mt ea.	40,000m^{3}ea.	2	18ea.	7/1	Q/R	3/4	210,001 - 300,000

Turn Stress Charts

Chart Speed	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
SUB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
W3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
W4	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	2
W5	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	2	2	2
W6	-	-	-	-	-	1	1	1	1	1	1	1	2	2	2	2	2	3
W7	-	-	-	1	1	1	1	2	2	1	2	2	2	3	2	3	2	3
W8	-	1	1	1	2	1	2	2	3	2	2	3	3	4	2	3	3	4
W9	1	1	2	2	3	2	2	3	4	2	3	4	3	5	3	4	3	4
W10	2	2	3	2	4	2	3	3	5	3	3	5	4	6	3	4	4	5

There are 18 stress charts, lettered A thru R. These 18 charts can yield t charts can yield thousands of combinations for engine and stress damage. Looking at the Enterprise Helm panel given in ST:RPG, you can see that there are two columns on it — engine stress and superstructure stress. These 18 charts in pairs yield the complete turn stress chart for each warp engine combination given on the warp engine tables. The use of the complete Turn Stress Chart is covered in ST:RPG and need not be covered here.

IMPULSE ENGINE TABLES

The second choice to be made in designing a vessel for the combat rules is what impulse engine to use. Again, each of the six cultures has its own impulse engine tables. From these tables can be ascertained the size in tons of the engine. Also, the size in number of gaming squares (1.5m x 1.5m) is given for those laying out the individual decks (see the section of this handbook on designing in detail for details on usage). The height in decks (normally 3.0m high) is given for this purpose also. The number of game power units delivered is here as well as the vessel size each type of engine can be used on.

Impulse engines vary in design from culture to culture and even within a culture. The methods of power generation vary widely, from nuclear fusion to hydrogen engines to the unknown in our current technology. The shielding on these engines is dense, contributing greatly to the high mass of each. The configuration of these engines can be diverse even within an engine type, due to space constraints and vessel design of each class of ship (see the Designing in Detail section for examples).

Impulse engines can be used on vessels without warp engines. These are referred to as boats. They are incapable of interstellar travel except at a very slow pace (so slow that gamemasters should greatly discourage it). These boats are generally carried aboard starships for use within a star system, for cargo carrrying within a system, for system defense, for messenger service within a system, and so on. They are generally small vessels, though not strictly so.

The headings on the impulse engine tables and use of each are explained in detail below:

1. TYPE - This is the three letter code for each impulse engine. The first letter designates the culture developing the engine (F - Federation, K - Klingon, R - Romulan, T - Tholian, G - Gorn, and O - Orion). The second letter, I, indicates impulse engine. The third letter is again an individual identification unique to each engine type within a race. With these codes, no two impulse engines have the same code combination. The second impulse engine on the Federation tables is FIB, for example.

2. SIZE (IN METRIC TONS) - This is the weight of the impulse engine in metric tons. For example, KIB weighs 325 metric tons. This figure must be subtracted from the tonnage remaining after section one warp engine section.

3. SIZE (IN GAMING SQUARES) - This is the size of the impulse engine in the number of gaming squares (1.5m x 1.5m) it will occupy on the vessel. For example, RID occupies 280 squares. This does not include console squares for running the engine. This is the number of squares the engine and associated equipment occupies (not control consoles, as these vary widely!).

4. HEIGHT (IN DECKS) - This is the height in number of decks that the engines will normally occupy. For example, TIA is one deck in height. Note that for engines occupying two decks, the number of squares given for space taken is the TOTAL squares for ALL decks. Engine configuration can not be changed so that an engine that would normally occupy two decks can be utilized on done only. Normally, walkways and ladders will surround equipment so that there will be easy access to all vital areas.

5. GAME POWER UNITS - As for the warp engines, these are power units that can be used to move the vessel, power weapons, and so on. The Gorn GIB produces 4 power units on a vessel up to 30,000 MTn. Their usage is covered in the Engineer section of the starship combat rules in ST:RPG. The power units generated by the impulse engine are used in conjunction with the power generated by the warp engine(s). All power units generated by all engines are totalled together on the full engineering game panel before being doled out to the various other player panels. The movement point/power ratio from the warp engine(s) is used for all power in use for movement; the impulse engines do not have a maneuver/power point ratio of their own.

6. APPLICABLE VESSEL TONNAGE - These are the parameters for the use of the individual impulse engine. The overall tonnage of the vessel from the warp/tonnage section is used here to determine the correct impulse engine variant to use. On boats (non-warp powered vessels) the decision on tonnage for the overall vessel is made here instead of in the warp/tonnage section. Note that due to the lack of warp engines, the overall power available to use is severely limited, making the boats very slow and very limited in weapon usage. For these reasons, boats are seldom equipped with weaponry and/or shields. They are used mainly for courier and cargo service, not combat.

As with the warp engine/tonnage method, when designing boats there is a margin of 30% for error in tonnage calculation.

IMPULSE ENGINE TABLES

TYPE	SIZE (in metric tons)	SIZE (in gameing squares)	HEIGHT (in decks)	GAME POWER POINTS	APPLICABLE VESSEL TONNAGE
FIA	150	60	1	3	up to 5,000
FIA	150	60	1	2	5,001 - 10,000
FIA	150	60	1	1	10,001 - 15,000
FIB	200	80	2	4	up to 50,000
FIB	200	80	2	2	50,001 - 100,000
FIC	255	102	2	6	up to 50,000
FIC	255	102	2	3	50,001 - 120,000
FIC	255	102	2	1	120,001 - 200,000
FID	315	126	2	8	50,001 - 100,000
FID	315	126	2	4	100,001 - 200,000
FID	315	126	2	2	200,001 - 300,000
FIE	350	140	2	16	50,001 - 100,000
FIE	350	140	2	8	100,001 - 200,000
FIE	350	140	2	4	200,001 - 300,000
FIF	438	175	2	20	75,001 - 150,000
FIF	438	175	2	16	150,001 - 225,000
FIF	438	175	2	12	225,001 - 300,000

KIA	213	85	1	3	up to 5,000
KIA	213	85	1	2	5,001 - 10,000
KIA	213	85	1	1	10,001 - 15,000
KIB	325	130	2	3	up to 50,000
KIB	325	130	2	2	50,001 - 100,000
KIB	325	130	2	1	100,001 - 150,000
KIC	568	227	2	6	up to 50,000
KIC	568	227	2	4	50,001 - 120,000
KIC	568	227	2	2	120,001 - 200,000
KIC	568	227	2	1	200,001 - 300,000
KID	715	286	2	8	50,000 - 100,000
KID	715	286	2	4	100,001 - 200,000
KIE	850	340	2	18	%0,001 - 10,000
KIE	850	340	2	12	100,001 - 150,000
KIE	850	340	2	6	150,001 - 200,000
KIF	963	385	2	23	100,001 - 200,000
KIF	963	385	2	17	200,001 - 300,000
KIF	963	395	2	11	300,001 - 400,000

ROMULAN ENGINES

RIA	187.5	75	1	3	up to 5,000
ENGINES					
RIA	187.5	75	1	2	5,001 - 10,000
RIA	187.5	75	1	1	10,001 - 15,000
RIB	262.5	105	2	3	up to 50,000
RIB	262.5	105	2	2	50,001 - 100,000
RIB	262.5	105	2	1	100,001 - 150,000
RIC	505	202	2	6	up to 50,000
RIC	505	202	2	5	50,001 - 100,000
RIC	505	202	2	3	100,001 - 150,000
RIC	505	202	2	1	150,001 - 200,000
RID	700	280	2	12	50,001 - 100,000
RID	700	280	2	8	100,001 - 150,000
RID	700	280	2	4	150,001 - 200,000
RIE	788	315	2	20	100,001 - 200,000
RIE	788	315	2	15	200,001 - 300,000
RIE	788	315	2	10	300,001 - 400,000

THOLIAN ENGINES

TIA	125	50	1	3	up to 10,000
TIA	125	50	1	2	10,001 - 25,000
TIA	125	50	1	1	25,001 - 50,000
TIB	187.5	75	1	5	up to 30,000
TIB	187.5	75	1	3	30,001 - 60,000
TIB	187.5	75	1	1	60,001 - 100,000
TIC	350	140	2	12	25,001 - 75,000
TIC	350	140	2	8	75,001 - 150,000
TIC	350	140	2	4	150,001 - 300,000
TID	488	195	2	15	50,001 - 125,000
TID	488	195	2	10	125,001 - 200,000
TID	488	195	2	5	200,001 - 300,000

GORN ENGINES

GIA	237.5	95	1	2	up to 5,000
GIA	237.5	95	1	1	5,001 - 12,500
GIB	362.5	145	2	4	up to 30,000
GIB	362.5	145	2	2	30,001 - 60,000
GIB	362.5	145	2	1	60,001 - 100,000
GIC	650	260	2	4	50,001 - 125,000
GIC	650	260	2	3	125,001 - 200,000
GIC	650	260	2	2	200,001 - 275,000
GID	788	315	2	8	50,001 - 150,000
GID	788	315	2	6	150,001 - 225,000
GID	788	315	2	3	225,001 - 300,000
GIE	950	380	2	10	75,001 - 150,000
GIE	950	380	2	7	150,001 - 225,000
GIE	950	380	2	4	225,001 - 300,000
GIE	950	380	2	1	300,001 - 375,000
GIF	1070	428	3	15	100,000 - 200,000
GIF	1070	428	3	10	200,001 - 300,000
GIF	1070	428	3	5	300,001 - 400,000

ORION ENGINES

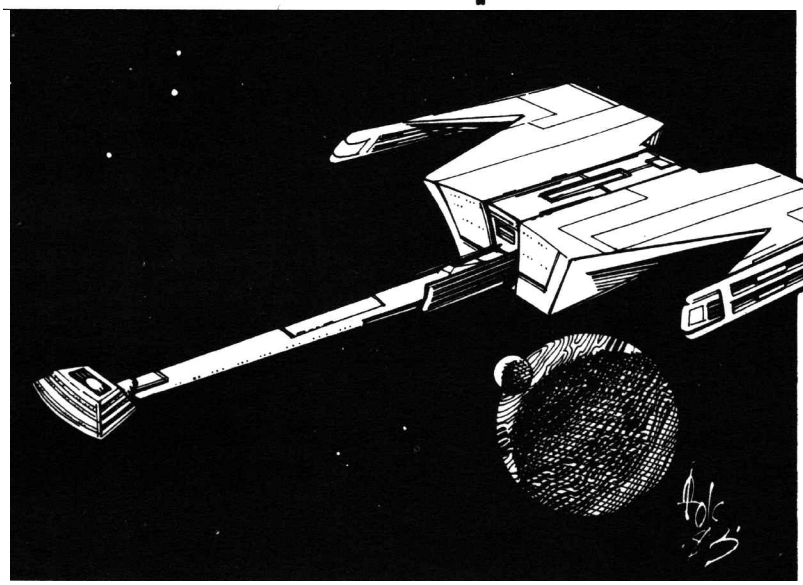
OIA	23	9	1	3	up to 5,000
OIA	23	9	1	2	5,001 - 10,000
OIA	23	9	1	1	10,001 - 15,000
OIB	75	30	2	3	up to 30,000
OIB	75	30	2	2	30,001 - 50,000
OIB	75	30	2	1	50,001 - 75,000
OIC	200	80	2	6	25,001 - 50,000
OIC	200	80	2	4	50,001 - 100,000
OIC	200	80	2	2	100,001 - 150,000

USING THE IMPULSE ENGINE TABLES

We will again use our example of the Larson class destroyer. The Larson is equipped with the FIB impulse engine (second line of this type). It weighs 200 tons, takes up 80 gaming squares on the deck layout and is two decks high. It produces 2 game power units for use in movement and weaponry. From our earlier example, we had 35,000 metric tons left on the Larson. This 35,000 minus 200 tons leaves us with 34,800 metric tons.

Now that we have the Larson powered, let's see how the weaponry given it in ST:RPG fits into the scheme of things.

Weapons And Shields



The weapons of the six cultures greatly vary. The Federation has its phasers and photon torpedoes. The Klingons have their disruptors and torpedoes, the Romulans their beams, plasma weapons, and — later — torpedoes. The Tholians, in addition to beamed weapons, have their unique energy web. The Gorn have crude but powerful blasters and the Orion their small but efficient disruptors (a Klingon design stolen and modified). All of these reflect different technologies and cultures, and each requires different tables, as did the engines of each culture. All of the beam weapons are similar to each other in effects and usage. Some discussion of differences can be found in ST:RPG. The torpedoes are also similar in usage and appearance. The Federation was the first to explore the possibilities of this type of weapon. The other cultures were soon to follow, the Klingons being the next. The only major standouts as far as different technology are the Tholian web and Romulan plasma weapon. These are also covered in ST: RPG and need not be repeated here.

All weapons have large tonnages listed for them. This is due to enormous radiation given off by the materials used in them requiring dense (hence massive in tonnage) shielding around them.

The headings used on the weapons tables are listed below with an explanation of each:

1. TYPE - This is, again, a unique alphabetic code for each type of weapon. The first letter is the racial code. The second (and sometimes third) is a letter appropriate to the type of weapon being employed. These codes are listed here for reference —

H — Phaser
P — Photon torpedo
D — Disruptor
B — Beam
PL — Plasma
R — Tholian beam
BL — Blaster

Each weapon type is then given a number code to differentiate weapons of the same nature.

2. WEIGHT IN METRIC TONS - This is the weight of the weapon in metric tons. This does not include the weight of any control consoles used for the weapon. This is the tonnage of the actual weapon equipment only.

3. SQUARES OCCUPIED - This is the number of gaming (1.5m x 1.5m) squares the weapon will occupy. The configuration of weapons will vary greatly, even weapons of the same type. Some examples of weapon configurations may be found in the section of this book on Designing for Detail.

4. COST - This is an exception to the rule on figuring the cost of a vessel. Weapons are very expensive due to the high cost of materials used in their construction and operation, and due to the high cost of labor competent to work with these materials. When figuring costs for a vessel, figure the tonnage costs as usual, then add costs of any weaponry on board. The cost given is for one of the weapons listed. There are no price reductions of any kind for tandem systems (as on the Enterprise) or for volume purchases.

5. FIRING CHART - This number refers to one of the 25 firing charts listed under 'Firing Charts'. All weapons of all cultures will use one of these 25 charts. (For explanation of firing chart usage see the Helm section of ST:RPG).

6. POWER RANGES - This range refers to the range of game power units that can be put into use by the individual weapon. For example, the Enterprise has phasers FH-3. Using the appropriate row on the Federation Weapons Table, you can see that the FH-3 has a range of 0-5 power units. Looking on the helm panel for the Enterprise included in ST:RPG,you see that each phaser can have up to 5 points of power put into it. Note that torpedoes do not have power ranges given. They have a 'To Arm' cost that is the number of power points it takes to arm the weapon for use (See ST:RPG for further details). Romulan plasma weapons are similar in use.

7. DAMAGE MODIFIERS - This lists the damage modifiers unique to each weapon at various ranges. The number with the + sign is the extra damage done at the ranges listed in ( ). Some weapons have no modifiers listed, doing damage only according to the amount of power put into the shot. Note that torpedoes do not have modifiers. They do a set number of points of damage according to the type of torpedo in use. Romulan plasma weapons do damage according to range in a more exacting method. For this reason, these three weapons have separate tables for the damage they do at various ranges (given after the firing tables).

Weapons Tables

TYPE	TONS	SQS FOR EQUIP	COST (in MCr)	FIRING CHART	POWER RANGES	DAMAGE MODIFIERS
FH-1	250	10	37.5	2	0-2	None
FH-2	375	15	56.25	3	0-3	+1 to 10
FH-3	625	25	93.75	12	0-5	+3(1-10) +2(11-17) +1(18-20)
FH-4	375	15	56.25	16	0-3	+2(1-8) +1(9-15)
FH-5	500	20	75	17	0-4	+2(1-8) +1(9-16)
FH-6	300	12	45	25	0-3	+2(1-7) +1(8-13)
FH-7	400	16	60	16	0-4	+2(1-8) +1(9-15)
FH-8	500	20	75	5	0-5	+2(1-10) +1(11-18)
FH-9	600	24	90	7	0-6	+2(1-12) +1(13-22)
FH-10	420	21	63	12	0-7	+3(1-10) +2(11-17) +1(18-20)
FH-11	600	30	90	20	0-10	+3(1-10) +2(11-17) +1(18-24)
FH-12	360	18	54	17	0-6	+2(1-9) +1(10-16)
					POWER TO ARM	DAMAGE FROM TORPEDO
FP-1	200	10	30	4	1	10
FP-2	120	6	18	3	1	6
FP-3	100	6	15	18	1	6
FP-4	240	12	36	19	1	20
FP-5	200	10	30	17	1	16
FP-6	160	8	24	13	1	12
KD-1	150	10	22.5	9	0-4	–
KD-2	180	12	27	10	0-4	+1 to 10
KD-3	210	14	31.5	22	0-5	+1 to 12
KD-4	450	18	67.5	14	0-4	+1 to 10
KD-5	575	23	86.25	23	0-4	+2(1-10) +1(11-18)
KD-6	600	24	90	5	0-6	+2 to 18
KD-7	350	17	52.5	4	0-7	+2(1-6) +1(7-12)
KD-8	800	32	120	6	0-7	+3(1-7) +2(8-15 +1(16-20)
KD-9	600	30	90	12	0-5	+3(1-7) +2(8-15) +1(16-20)
KD-10	300	15	45	1	0-3	+1 to 6
KD-11	340	17	51	2	0-5	+2(1-4) +1(5-8)
KD-12	700	35	105	3	0-9	+3(1-3) +2(4-8) +1(9-10)
KD-13	520	26	78	7	0-5	+3(1-7) +2(8-15) +1(16-22)
KD-14	660	33	99	18	0-8	+2 to 6
					POWER TO ARM	DAMAGE FROM TORPEDO
KP-1	225	9	33.75	2	1	6
KP-2	375	15	56.25	3	1	10
KP-3	550	22	82.5	17	2	15
KP-4	675	27	101.25	16	2	18
KP-5	300	15	45	16	1	10
KP-6	600	30	90	17	2	20

TYPE	TONS	SQS FOR EQUIP	COST (in MCr)	FIRING CHART	POWER RANGES	DAMAGE MODIFIERS
RB-1	200	8	30	10	0-2	None
RB-2	225	9	33.75	8	0-2	None
RB-3	600	24	90	21	0-6	+1 to 4
RB-4	650	26	97.5	14	0-6	+3(1-2) +2(3-6) +1(7-10)
RB-5	750	30	112.5	24	0-5	+3(1-10) +2(11-16) +1(17-21)
RB-6	650	26	97.5	5	0-6	+2 to 18
RB-7	500	20	75	14	0-4	+2(1-6) +1(7-10)
RB-8	600	24	90	25	0-6	+3(1-4) +2(5-9) +1(10-13)
RB-9	700	28	105	12	0-6	+3(1-8) +2(9-16) +1(17-20)
RB-10	750	30	112.5	6	0-8	+3(1-8) +2(9-16) +1(17-20)
					POWER TO ARM	
RPL-1	120	60	180	11	10	See Chart
RPL-2	180	90	270	15	15	See Chart
RPL-3	96	48	144	5	8	See Chart
					POWER TO ARM	DAMAGE FROM TORPEDO
RP-1	135	9	20.25	2	1	6
RP-2	180	12	27	3	1	8
RP-3	225	15	33.75	16	1	10
TR-1	120	12	18	2	0-4	+2 to 8
TR-2	140	14	21	3	0-4	+2(1-8) +1(9-10)
TR-3	150	15	22.5	4	0-5	+2(1-8) +1(9-12)
TR-4	180	18	27	14	0-6	+3(1-4) +2(5-7) +1(8-10)
TR-5	160	16	24	13	0-4	+2(1-8) +1(9-14)
TR-6	190	19	28.5	19	0-5	+3(1-7) +2(8-12) +1(13-16)
TR-7	240	24	36	25	0-8	+3(1-6) +2(7-10) +1(11-13)
TR-8	260	26	39	12	0-6	+4(1-10) +3(11-20)
					POWER TO ARM	DAMAGE FROM TORPEDO
TP-1	100	10	15	3	1	10
TP-2	120	12	18	13	1	12
TP-3	180	18	9	12	1	18
GBL-1	280	14	42	9	0-4	None
GBL-2	300	15	45	10	0-4	None
GBL-3	340	17	51	8	0-3	+3(1-5) +2(6-10) +1(11-15)
GBL-4	400	20	60	23	0-5	+3(1-6) +2(7-12) +1(13-18)
GBL-5	480	24	72	13	0-4	+3(1-6) +2(7-10) +1(11-12)
GBL-6	600	30	90	15	0-7	+3(1-5) +2(6-10) +1(11-14)
GBL-7	640	32	96	17	0-5	+3(1-6) +2(7-12) +1(13-16)
GBL-8	680	34	102	12	0-6	+3(1-10) +2(11-15) +1(16-20)
					POWER TO ARM	DAMAGE FROM TORPEDO
GP-1	200	10	30	11	2	5
GP-2	400	20	60	8	2	10
OD-1	60	6	9	11	0-3	None
OD-2	80	8	12	14	0-3	+2(1-5) +1(6-10)
OD-3	150	15	22.5	17	0-4	+1 to 16
OD-4	180	18	27	5	0-6	+2 to 18
OD-5	210	21	31.5	6	0-7	+2(1-10) +1(11-20)

Firing Tables

The firing tables are listed below. The column on the far left is the range in hexes used for the weapons. The row across the top is the firing table number. Under this is the normal 'To Hit' roll needed at the given range. For example, on firing chart 8, at a range of 5 hexes, a 1 thru 6 is needed to hit the target. Don't forget that skill rolls can be used to increase your chances to hit.

Table No.	1	2	3	4	5	6	7	8	9	10
Range										
1	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-8	1-5	1-7
2	1-8	1-9	1-9	1-10	1-10	1-10	1-10	1-8	1-5	1-7
3	1-6	1-7	1-8	1-9	1-9	1-9	1-10	1-7	1-4	1-6
4	1-4	1-6	1-7	1-9	1-9	1-9	1-9	1-7	1-4	1-6
5	1-2	1-4	1-6	1-8	1-8	1-8	1-9	1-6	1-3	1-5
6	1	1-3	1-5	1-7	1-8	1-8	1-9	1-6	1-3	1-5
7		1-2	1-4	1-6	1-7	1-7	1-8	1-5	1-2	1-4
8		1	1-3	1-5	1-7	1-7	1-8	1-5	1-2	1-3
9			1-2	1-4	1-6	1-6	1-7	1-4	1	1-2
10			1	1-3	1-6	1-6	1-7	1-4	1	1
11				1-2	1-5	1-5	1-6	1-3		
12				1	1-5	1-5	1-6	1-3		
13					1-4	1-4	1-5	1-2		
14					1-4	1-4	1-5	1-2		
15					1-3	1-3	1-4	1		
16					1-3	1-3	1-4			
17					1-2	1-2	1-3			
18					1	1-2	1-3			
19						1	1-2			
20						1	1-2			
21							1			
22							1			
23										
24										
25										

Table No.	11	12	13	14	15	16	17	18	19	20
Range										
1	1-8	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10
2	1-7	1-10	1-10	1-10	1-9	1-10	1-10	1-9	1-10	1-10
3	1-6	1-10	1-9	1-9	1-8	1-10	1-9	1-7	1-10	1-10
4	1-5	1-10	1-9	1-9	1-7	1-9	1-9	1-5	1-9	1-9
5	1-4	1-9	1-8	1-8	1-7	1-9	1-8	1-3	1-9	1-9
6	1-3	1-9	1-8	1-8	1-7	1-8	1-8	1	1-8	1-9
7	1-2	1-8	1-7	1-6	1-6	1-8	1-7		1-8	1-8
8	1	1-8	1-6	1-4	1-6	1-7	1-7		1-7	1-8
9		1-7	1-5	1-2	1-5	1-6	1-6		1-7	1-8
10		1-7	1-5	1	1-5	1-5	1-6		1-6	1-7
11		1-6	1-4		1-4	1-4	1-5		1-6	1-7
12		1-6	1-3		1-3	1-3	1-5		1-5	1-7
13		1-5	1-2		1-2	1-2	1-4		1-4	1-6
14		1-5	1		1	1	1-3		1-3	1-6
15		1-4					1-2		1-2	1-5
16		1-4					1		1	1-5
17		1-3								1-4
18		1-3								1-4
19		1-2								1-3
20		1								1-3
21										1-2
22										1-2
23										1
24										1
25										

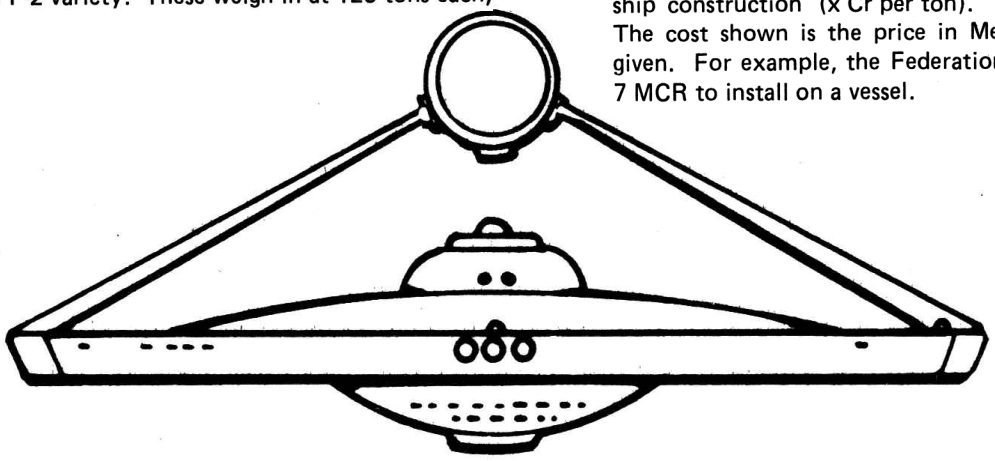
Table No.	21	22	23	24	25
Range					
1	1-8	1-8	1-8	1-9	1-10
2	1-6	1-8	1-8	1-9	1-10
3	1-4	1-7	1-8	1-8	1-9
4	1-2	1-7	1-7	1-8	1-9
5		1-6	1-7	1-8	1-8
6		1-6	1-7	1-7	1-8
7		1-5	1-6	1-7	1-7
8		1-5	1-6	1-7	1-6
9		1-4	1-6	1-6	1-5
10		1-3	1-5	1-6	1-4
11		1-2	1-5	1-6	1-3
12		1	1-4	1-5	1-2
13			1-4	1-5	1
14			1-3	1-5	
15			1-3	1-4	
16			1-2	1-4	
17			1-2	1-3	
18			1	1-3	
19				1-2	
20				1-2	
21				1	
22					
23					

Given below are the three damage tables for the Romulan plasma weapons. The numbers listed under each column are the damages done at the given ranges for the individual hex distances.

Range	RL-1	RL-2	RL-3
1	12	16	14
2	10	16	14
3	10	16	14
4	8	12	14
5	8	12	12
6	6	12	12
7	4	10	12
8	2	10	12
9		8	10
10		8	10
11		6	10
12		6	8
13		4	8
14		4	6
15			6

Now let's go back to our current example of the Larson class destroyer and add the weaponry. It will be noted from ST:RPG that the Larson has six phasers. These are the FH-4 phasers which weigh in at 375 metric tons each. Since there are six we need to subtract 2250 tons from our previous total of 34,000 metric tons. This leaves us with 32,550 tons. There are also two photon torpedo tubes of the FP-2 variety. These weigh in at 120 tons each, so we need to subtract another 240 tons from our total. 32,550 minus 240 = 32,310 metric tons left. This left-over weight will not be used in the rest of our example, for reasons we will see. What happens to it? This 32,310 tons will be used for the deck layouts (at 1 ton per square). Any excess left from that will fit into the 30%+— margin of error that we allowed.

Let us now return to the Larson and equip it with shields. The Larson (according to the gamemaster panel, not the first edition rulebook, which shows incorrect data) has deflectors (shields) at 12 points maximum each side. The Larson has a power points/shield points ratio of 1/1. The Federation shield that has these characteristics is FSG at a cost of 6MCr. Note that the Larson has weaponry and shields, we need a crew to operate them. And so, on to our next section.



Shields

Since shielding equipment is built into the hull of a ship in a grid form, the weight of this equipment is considered to be included in the overall weight of the vessel. Any controls used are taken into consideration in the overall engineering consoles (see Designing in Detail). There are only four considerations in shielding: the type of shielding used, how efficient it is, the maximum shielding that can be generated on a hex side, and the cost of the shielding equipment. The headings on the Shielding Tables are given below.

1. TYPE - Again, we have a code that is unique to each type of shield. The first letter is the cultural code, the second (S) stands for the type of equipment, in this case shields. The third letter is the code used to identify the type of shield within a culture.

2. TOTAL POWER PER HEX SIDE - This is the maximum amount of shielding that can be used on a hex side for the type of shield in use. The range of power that can be put into a shield is from 0 to the number given. For example, Klingon shield KSC on a vessel would allow up to 8 points of shielding to be raised on a hex side.

3. POWER POINTS TO SHIELD POINTS RATIO: This is the number of game power units needed to generate one (or more) shield points. For example, on the Klingon KSC shield used above, every point of power put into shielding would generate 2 points of shields. If 3 points of power were diverted from engineering to the Navigator for shields, the Navigator would have 6 points of shielding to place where he desired.

4. COST - This is an exception to the normal costs for ship construction (x Cr per ton). Shields DO cost extra. The cost shown is the price in Megacredits for the shield given. For example, the Federation shield FSJ would cost 7 MCR to install on a vessel.

FEDERATION SHIELDS

TYPE	TOTAL POWER PER HEX SIDE	POWER POINTS/ SHIELD POINTS	COST
FSA	6	1/1	3
FSB	6	1/2	6
FSC	8	1/1	4
FSD	8	1/2	8
FSE	10	1/1	5
FSF	10	1/2	10
FSG	12	1/1	6
FSH	12	1/2	12
FSI	12	1/3	18
FSJ	14	1/1	7
FSK	14	1/2	14
FSL	14	1/3	21
FSM	16	1/1	8
FSN	16	1/2	16
FSO	16	1/3	24
FSP	16	1/4	32

ROMULAN SHIELDS

TYPE	TOTAL POWER PER HEX SIDE	POWER POINTS/ SHIELD POINTS	COST
RSA	5	1/1	2.5
RSB	7	1/1	3.5
RSC	7	1/2	7
RSD	8	1/1	4
RSE	8	1/2	8
RSF	8	1/3	12
RSG	11	1/1	5.5
RSH	11	1/2	11
RSI	11	1/3	16.5
RSJ	13	1/1	6.5
RSK	13	1/2	13
RSL	13	1/3	19.5
RSM	15	1/1	7.5
RSN	15	1/2	15
RSO	15	1/3	22.5

KLINGON SHIELDS

TYPE	TOTAL POWER PER HEX SIDE	POWER POINTS/ SHIELD POINTS	COST
KSA	5	1/1	2.5
KSB	7	1/1	3.5
KSC	8	1/1	4
KSD	8	1/2	8
KSE	10	1/1	5
KSF	10	1/1.5	7.5
KSG	10	1/2	10
KSH	10	1/3	15
KSI	12	1/1	6
KSJ	12	1/1.5	9
KSK	12	1/2	12
KSL	12	1/3	18
KSM	15	1/1	7.5
KSN	15	1/1.5	11.25
KSO	15	1/2	15
KSP	15	1/3	22.5

GORN SHIELDS

TYPE	TOTAL POWER PER HEX SIDE	POWER POINTS/ SHIELD POWER	COST
GSA	7	2/1	1.75
GSB	7	1/1	3.5
GSC	9	2/1	2.25
GSD	9	1/1	4.5
GSE	9	1/2	9
GSF	10	2/1	2.5
GSG	10	1/1	5
GSH	10	1/2	10
GSI	12	2/1	3
GSJ	12	1/1	6
GSK	12	1/2	12
GSL	14	2/1	3.5
GSM	14	1/1	7
GSN	14	1/2	14

ORION SHIELDS

TYPE	TOTAL POWER PER HEX SIDE	POWER POINTS/ SHIELD POWER	COST
OSA	4	1/1	2
OSB	4	1/2	4
OSC	4	1/3	6
OSD	6	1/1	3
OSE	6	1/2	6
OSF	6	1/3	9
OSG	8	1/1	4
OSH	8	1/2	8
OSI	8	1/3	12
OSJ	8	1/4	16

THOLIAN SHIELDS

TYPE	TOTAL POWER PER HEX SIDE	POWER POINTS/ SHIELD POINTS	COST
TSA	6	1/1	3
TSB	6	1/2	6
TSC	8	1/1	4
TSD	8	1/2	8
TSE	10	1/1	5
TSF	10	1/2	10
TSG	10	1/3	15
TSH	12	1/1	6
TSI	12	1/2	12
TSJ	12	1/3	18
TSK	14	1/1	7
TSL	14	1/2	14
TSM	14	1/3	21

VESSEL CREW ALLOCATION

Crew totals are necessary to evaluate casualties and to figure crew efficiency (as used on the Communications panel). Crews are assigned according to culture and vessel size. These should be considered as rough guidelines for the combat system only. These are given on the tables below:

FEDERATION		
Under	10,000 tons	1 per 670 tons
Over	10,000 tons	1 per 530 tons
KLINGON		
Under	10,000 tons	1 per 770 tons
Over	10,000 tons	1 per 540 tons
ROMULAN		
Under	10,000 tons	1 per 735 tons
Over	10,000 tons	1 per 535 tons
THOLIAN		
Under	10,000 tons	1 per 950 tons
Over	10,000 tons	1 per 700 tons
GORN		
Under	10,000 tons	1 per 500 tons
Over	10,000 tons	1 per 350 tons
ORION		
Under	10,000 tons	1 per 1000 tons
Over	10,000 tons	1 per 850 tons

Remember, these are suggested minimums only. Most of the vessels that are produced by FASA use these as guidelines. Service (non-combat) vessels are much more relaxed in following these rules. Vessels under 10,000 tons can, in most cases, be operated by one crew member. Vessels over 10,000 tons must normally be crewed by at least 5 people to perform minimum operations (non-combat).

The Larson is listed as having a crew of 195. Using the above tables, we can see that it was required to have a crew of at least 179. Therefore, we have met the minimum requirements.

SUPERSTRUCTURE VALUES

The next item necessary for the ship combat system is the value for superstructure strength. This is needed for recording damage to the vessel in combat. The procedure for determining superstructure values is very simple. One (1) point of superstructure strength is received for each 10,000 metric tons of vessel. (Fractional tonnage amounts do not count. 35,000 tons would net 3 superstructure points, not 4). The minimum value for superstructure is 1, no matter how light the vessel.

If you look at the tonnage listed for various vessels in ST:RPG, however, you will notice that this does not appear correct. That is because superstructures may be reinforced for more strength (i.e., higher Superstructure game values) if the designer is willing to pay for the increased protection. Each point of superstructure strength gained will cost an x number of Megacredits times the value of superstructure strength being added, as shown on the table below:

TONNAGE OF VESSEL	COST OF MULTIPLIER
0 – 10,000	x1 MCR
10,001 – 25,000	x1.5 MCR
25,001 – 50,000	x2 MCR
50,001 – 75,000	x2.5 MCR
75,001 – 100,000	x3 MCR
100,001 +	x3.5 MCR

For example, a vessel of 60,000 tons would normally have a superstructure value of 6. If the designer wanted to have a superstructure value of 10, he would have to pay an additional 10 MCR (4 x 2.5 MCR) for the extra four points.

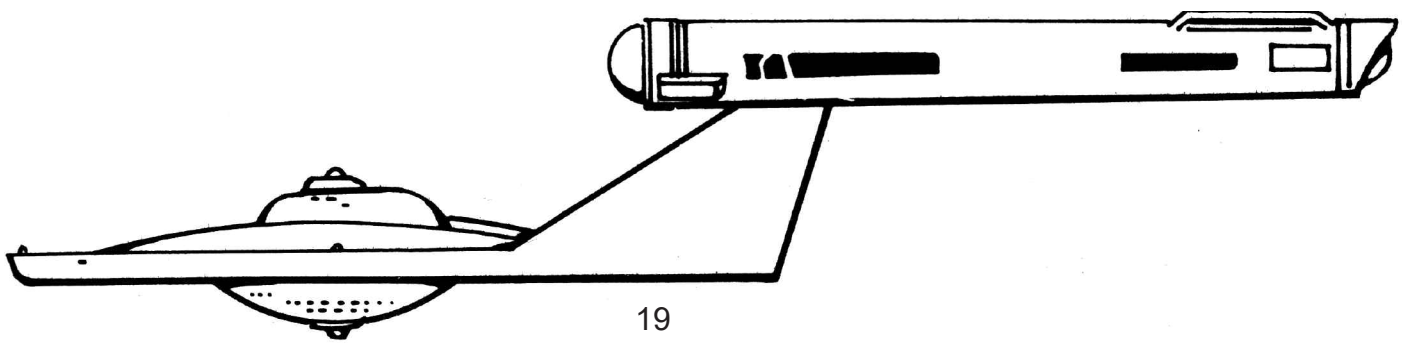
Going back to the Larson, it is listed in ST:RPG a having a superstructure value of 12. The Larson is 95,000 metric tons, therefore it has a normal superstructure value of 9. The extra 3 points would cost the Federation 9 MCR (3 points times 3 MCR per point).

There now remains one item to be tended to before we can construct the full set of panels for the Larson. We need to decide which damage charts to use.

DAMAGE CHART SELECTION

The selection of damage charts is a very simple process. The charts done for the original game rules were done based on the configuration of each individual vessel. While writing this booklet, however, it was realized that this was neither necessary nor expedient. Since the starship combat system is not played using a three-dimensional system, we did not need to worry about whether or not the attack was coming from above or below the vessel. We only needed to be concerned with which of the six hex-angles the attack was coming from. Therefore, each damage chart has six sections, FORWARD, STARBOARD-FORWARD, PORT-FORWARD, AFT, STARBOARD-FORWARD, and PORT-AFT.

It was decided, however, that due to the nature of the combat results (i.e. engine hits, weapons hits, etc.) that some variation needed to be provided for. Since engine location is vital, the system has been broken down into three sets of damage charts based on the location of the warp engines (for boats, use set B). If the engines are located forward, use DAMAGE CHARTS "A". If the engines are centrally located, use set "B". If the engines are aft, use set "C". Using these three sets of charts will allow for tactics to develop, as the smart player will position his vessel to take advantage of the location of the engines (and likewise the appropriate set of charts).



To decide which set of charts to use, simply look at the sketch of the vessel. If in serious doubt as to which set to use, roll one of the dice from the basic game. 1-5 use one of the sets in question, 6-10 use the other. Usually the choice will be easy. The Enterprise would obviously use set "C", as would the Klingon D-7.

These charts are based roughly on the set given in ST:RPG for the Enterprise, so little explanation is needed. The die roll on the appropriate section based on firing angle yields the hit location. The numbers in parentheses are the percentages of crew casualties for that hit location. For example, on DAMAGE CHART A, FORWARD, if the die roll was is 5, the hit is on the superstructure. If the hit got through the shields, if any were up, damage would be assessed as usual. Then, for each point of damage, 2% of the crew would be casualties. If the crew of the target vessel was 250, then there would be 5 casualties for each point of damage. If there were 3 points of damage, there would be fifteen casualties.

Using the good old Larson, we can see that it would use set "C".

DAMAGE CHARTS A (ENGINE FORWARD)

DIE ROLL	FORWARD	DIE ROLL	STARBOARD-FORWARD	DIE ROLL	PORT-FORWARD
1	Sensors out 1-2 turns	1	Sensors out 1-2 turns	1	Sensors out 1-2 turns
2	Forward shield gen damaged (.05)	2	Stbd-Fwd shield damaged	2	Port-fwd shield gen damaged
3	One forward weapon damaged	3	Starboard warp engine	3	Port warp engine
4	Superstructure (1)	4	Starboard warp engine	4	Port warp engine
5	Superstructure (2)	5	Starboard warp engine (2)	5	Port warp engine (2)
6	One forward weapon damaged	6	Starboard warp engine	6	Port warp engine
7	Port warp engines	7	Superstructure (1)	7	Superstructure (1)
8	Starboard warp engine	8	Superstructure (2)	8	Superstructure (2)
9	Bridge personnel out	9	One stbd-fwd weapon damaged (.05)	9	One port-fwd weapons damaged (.05)
10	Bridge personnel out	10	Bridge personnel out	10	Bridge personnel out

DIE ROLL	AFT	DIE ROLL	STARBOARD-AFT	DIE ROLL	PORT-AFT
1	Tractor beam damaged	1	Starboard warp engine	1	Port warp engine
2	One aft weapon damaged (.05)	2	One stbd-sft weapon damaged	2	One port aft weapon damaged
3	Superstructure (1)	3	Impulse engine (.02)	3	Impulse engine (.02)
4	Superstructure (2)	4	Superstructure (.02)	4	Superstructure (.02)
5	Superstructure (3)	5	Superstructure (1)	5	Superstructure (1)
6	Impulse engine	6	Superstructure(1)	6	Superstructure (1)
7	Impulse engine	7	Superstructure (2)	7	Superstructure (2)
8	Starboard warp engine	8	Superstructure (5)	8	Superstructure (5)
9	Port warp engine	9	Superstructure (5)	9	Superstructure (5)
10	Aft shield generator damaged	10	Stbd-Aft shield gen dmaaged	10	Port aft shield gen damaged

DAMAGE CHARTS B (ENGINE CENTRAL)

DIE ROLL	FORWARD	DIE ROLL	STARBOARD-FORWARD	DIE ROLL	PORT-FORWARD
1	Sensors out 1-2 turns	1	Sensors out 1-2 turns	1	Sensors out 1-2 turns
2	Forward shield generator damaged	2	Stbd forward shield gen damaged	2	Port-fwd shield gen damaged
3	One forward weapon damaged	3	Starboard warp engine	3	Port warp engine
4	Superstructure (1)	4	Starboard warp engine	4	Port warp engine
5	Superstructure (5)	5	Starboard warp engine	5	Port warp engine
6	One forward weapon damaged	6	Superstructure (.02)	6	Superstructure (.02)
7	Superstructure (5)	7	Superstructure (1)	7	Superstructure (1)
8	Superstructure (1)	8	Superstructure (2)	8	Superstructure (2)
9	Bridge personnel out	9	One stbd-fwd weapon damaged (.05)	9	One stbd fwd weapon damaged (.05)
10	Bridge personnel out	10	Bridge personnel out	10	Bridge personnel out

DIE ROLL	AFT	DIE ROLL	STARBOARD-AFT	DIE ROLL	PORT-AFT
1	Tractor beam damaged	1	Superstructure (2)	1	Superstructure (2)
2	One aft weapon damaged	2	One stbd-aft weapon damaged (.05)	2	One port aft weapon damaged
3	Superstructure (1)	3	Impulse engine (.02)	3	Impulse engine (.02)
4	Superstructure (1)	4	Starboard warp engine	4	Port warp engine
5	Superstructure (3)	5	Starboard warp engine	5	Port warp engine
6	Impulse engine	6	Starboard warp engine	6	Port warp engine
7	Impulse engine	7	Superstructure (1)	7	Superstructure (1)
8	Starboard warp engine (2)	8	Superstructure (2)	8	Superstructure (2)
9	Port warp engine (2)	9	Superstructure (5)	9	Superstructure (5)
10	Aft shield generator damaged	10	Stbd-Aft shield gen damaged	10	Port aft shield gen damaged

DAMAGE CHARTS C (ENGINES TO REAR)

DIE ROLL	FORWARD	DIE ROLL	STARBOARD-FORWARD	DIE ROLL	PORT-FORWARD
1	Sensors out 1-2 turns	1	Sensors out 1-2 turns	1	Sensors out 1-2 turns
2	Fwd shield gen damaged (.05)	2	Stbd-fwd shield gen damaged	2	Port fwd shield gen damaged
3	One fwd weapon damaged (.05)	3	Starboard warp engine	3	Port warp engine
4	Superstructure hit (1)	4	Superstructure (.02)	4	Superstructure (.02)
5	Superstructure hit (2)	5	Superstructure (1)	5	Superstructure (1)
6	One forward weapon damaged	6	Superstructure (2)	6	Superstructure (2)
7	Superstructure hit (2)	7	Superstructure (2)	7	Superstructure (2)
8	Superstructure hit (3)	8	Superstructure (5)	8	Superstructure (5)
9	Bridge personnel out	9	One starboard weapon damaged	9	One port weapon damaged
10	Bridge personnel out	10	Bridge personnel out	10	Bridge personnel out

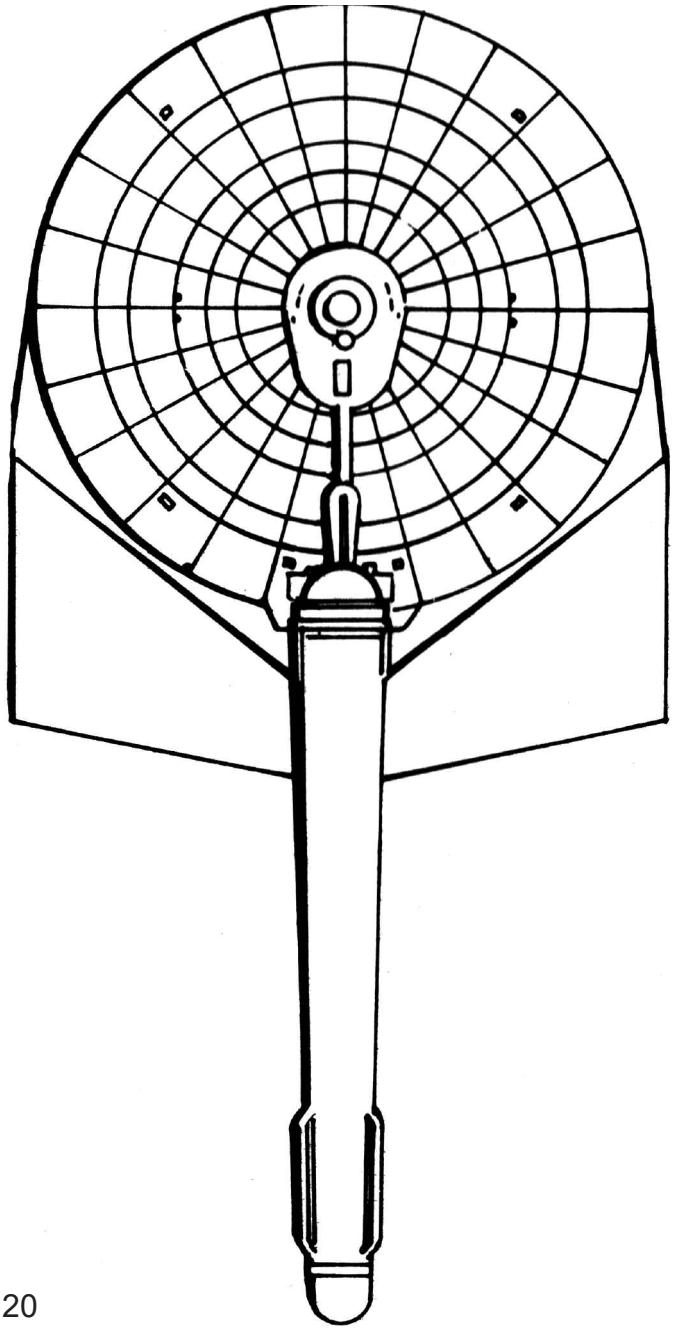
DIE ROLL	AFT	DIE ROLL	STARBOARD-AFT	DIE ROLL	PORT-AFT
1	Tractor beam damaged	1	Starboard warp engine	1	Port warp engine
2	One aft weapon damaged (.05)	2	Starboard warp engine	2	Port warp engine
3	Superstructure (1)	3	Starboard warp engine	3	Port warp engine
4	Starboard warp engine	4	Impulse engine (.02)	4	Impulse engine (.02)
5	Starboard warp engine	5	Superstructure (1)	5	Superstructure (1)
6	Impulse engine	6	Superstructure (1)	6	Superstructure (1)
7	Impulse engine	7	Superstructure (2)	7	Superstructure (2)
8	Port warp engine	8	Superstructure (5)	8	Superstructure (5)
9	Port warp engine	9	Stbd-aft shield gen damaged	9	Port-aft shield gen damaged
10	Aft shield generator damaged	10	One stbd-aft weapon damaged (.05)	10	One port-aft weapon damaged (.05)

For those players desiring a simpler damage chart universal to any vessel for use in quicker, multi-vessel combat situations, the following is provided.

DAMAGE CHARTS (Simple Version)

DIE ROLL	RESULT
1	Superstructure
2	Superstructure
3	Superstructure
4	Deflector
5	Weapon (Large)
6	Weapon (Small)
7	Warp engine
8	Warp engine
9	Warp engine
10	Impulse engine

We are now ready to learn how to construct the full sets of game panels for each player as were provided in the basic game for the Enterprise. We will use the Larson as our continuing example.



11x17 panels are now found in Supplement 11, Combat Grids. "Letter-size" panels are found at the back of this Supplement.

Designing Full Player Panels

Now that we have the Larson equipped, we need full sets of player panels to be able to use her in the starship combat game. These rules and guidelines apply to constructing the panels for any vessel designed with this book, however. As evidenced in ST:RPG's basic set, there are five panels: 1) Engineer 2) Navigator 3) Helm 4) Sciences 5) Communications. Remember, the Captain has no panel! We will examine each of these in the order given. We will learn what goes onto each panel, where the information comes from, and how to apply this information to the Standard Control Panels included in this booklet.

These Standard Control Panels can be found on pages They can be photocopied for personal use only. Use of these panels will eliminate the need for players and ship designers to use rulers, pencils, and graph paper to draw panels each time a vessel is needed. It is suggested that the reader not mark on the panels in this booklet, but reproduce several copies of each sheet to have on hand as needed. These panels are laid out so that they may be used with any vessel created with these rules. Each section details how each panel is to be used in the design process. Each track on a panel has the maximum number of boxes usable by any vessel designed with this booklet. Boxes not needed are crossed out as unusable. For example, if a track has boxes numbered 1 -16 and only 1 - 12 are needed, cross out any box numbered higher than 12.

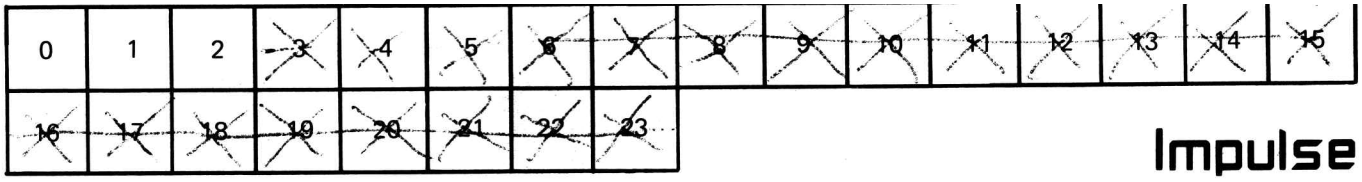
ENGINEERING PANEL

The Engineer's panel is normally the most complex in a set of panels, so let's start with it and get it out of the way. Besides, we need the information on it to design the other panels.

Looking at the Standard Engineer Panel, we see seven 'tracks', or groups of boxes. These are: IMPULSE, WARP ENGINE 1-STARBOARD, WARP ENGINE 2-PORT, TOTAL POWER AVAILABLE, POWER TO MOVEMENT, POWER TO SHIELDS, and POWER TO WEAPONS. Boats will always use the IMPULSE track, but never the WARP ENGINE tracks. Ships will always use the IMPULSE track and either one or two WARP ENGINE tracks. All Engineer panels will use the TOTAL POWER AVAILABLE track and the POWER TO MOVEMENT track. Not all vessels will use the POWER TO SHIELDS and/or the POWER TO WEAPONS tracks. Let's look at each of these tracks and see where the information comes from to place on them.

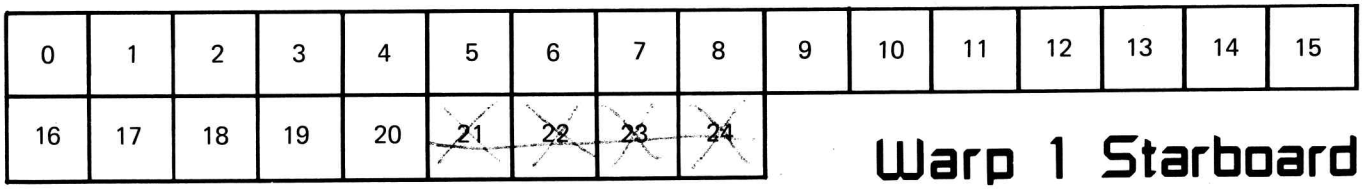
IMPULSE: The number of boxes used here is determined by what type of impulse engine is in use. The number of game power units produced by the impulse engine in use is the number of boxes needed, plus the box numbered

The Larson has impulse engine FIB. It produces 2 points of game power units, therefore we would have three boxes on the IMPULSE track for the Larson as shown below:



WARP ENGINES: Naturally enough, we need one track for each warp engine on our ship. Each track has a number of boxes equal to the number of game power units produced by the warp engine, plus the box numbered "0" in case the engine is reduced to no power output.

The Larson has warp engine (only one) FWC. It porduces 20 game power units, so we need 21 boxes numbered 0 thru 20.



The second warp engine track is not needed for the Larson, so we can skip it. The entire track should be marked out so that there is no confusion as to what power sources are available.

TOTAL POWER AVAILABLE: This is the total of IMPULSE power and WARP ENGINE(S) power. Add the power produced by all engines and add 2. Why 2? Because our Engineer might make his skill roll (See Engineer section of ST:RPG) and gain two extra points of power in a turn. This plus a "0" box will give us the number of boxes we need for this track.

For the Larson, our impulse engine produces two power units and the warp 20, so we need 25 boxes, numbered 0 thru 24. (The 22 power units plus the "0" plus the 2 possible bonus points gained on the skill roll).

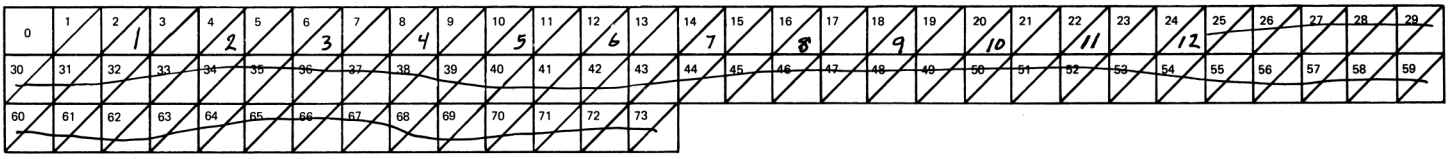
Total Power Available

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
64	65	66	67	68	69	70	71	72	73						

POWER TO MOVEMENT: This is the same number of boxes as determined above. Notice that all the boxes are split diagonally with numbers on the top to indicate the number of points of power put into movement. The maneuver points ratio from the warp engine tables will determine how often this split occurs. The first split will be numbered "1" on the bottom, with an increase of 1 in each split box. The boxes will be split every second, third, etc. box according to the ratio. If the ratio is 2/1, then every second box will gain a movement point and will be split. The Enterprise has a ratio of 4/1, so every fourth box is split.

The Larson's FWC engine has a ratio of 2/1 so every second box is split.

Power To Movement

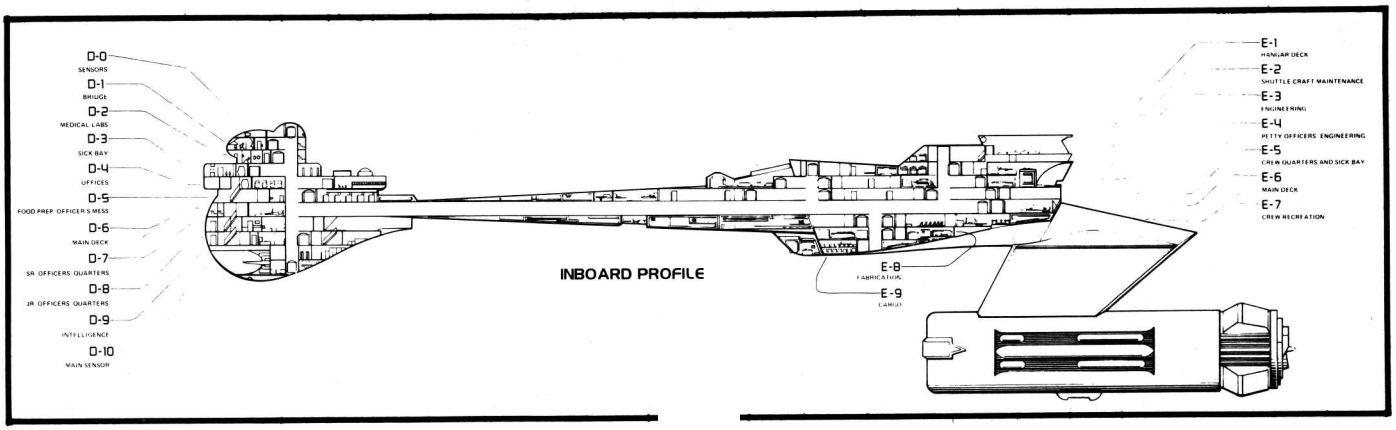


POWER TO SHIELDS: This track also will use the same number of boxes as there are in the TOTAL POWER AVAILABLE track. This track also uses the split box system. On this track the Power points/Shield points ratio from the Shield Tables will determine how to place numbers in the lower halves of the tables. For example, Romulan shield RSF has a ratio of 1/3. This means that in the box numbered "1", a "3" would be placed in the bottom half. In the "2" box, a "6" would be written in, etc...

The Larson's shields are of the FSG variety, so there is a ratio of 1/1 and boxes are numbered underneath as 1,2,3, etc.

Power To Shields

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69	70	71	72	73																



POWER TO WEAPONS: This track consists of boxes numbered 0 - 73. Any boxes numbered higher than the possible total power produced will be marked out. Note that many times a vessel will have a power available to weapons track numbered higher than the total power usage of all weapons aboard. Players may wish to mark out boxes on this track to conform to the lower of these two values - power available and total power possible in weapons.

The Larson has a total power available of 24, so boxes numbered higher than 24 will be marked out.

Power To Weapons

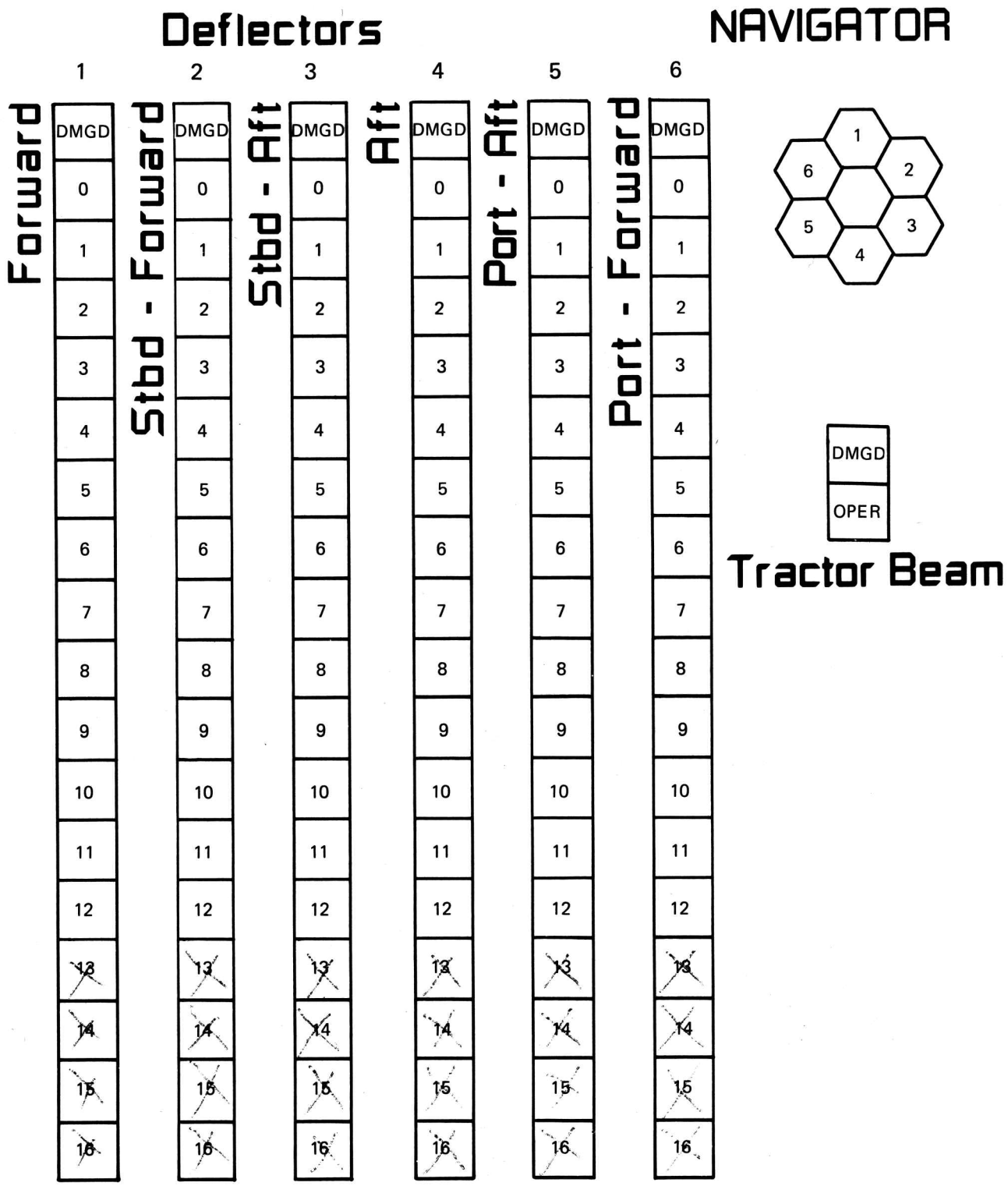
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
64	65	66	67	68	69	70	71	72	73						

This completes our Engineering panel. Now that our vessel's Engineer is ready to play, let's prepare our Navigator panel.

NAVIGATION PANEL

Take a look at the Standard Navigation panel. Look familiar? It should. It is basically the same panel provided in the game for the Constitution class. There are 6 tracks numbered 1 - 6, with boxes numbered 0 - 16 in each track. The Tractor Beam track is here, along with the diagram showing the locations of the 6 shields. These deflector tracks are marked off according to how many boxes are allowed according to the shield chart information.

The Larson has FSG shields rated at 12 points per box side. Mark out the boxes numbered higher than 12 on each of the six tracks.

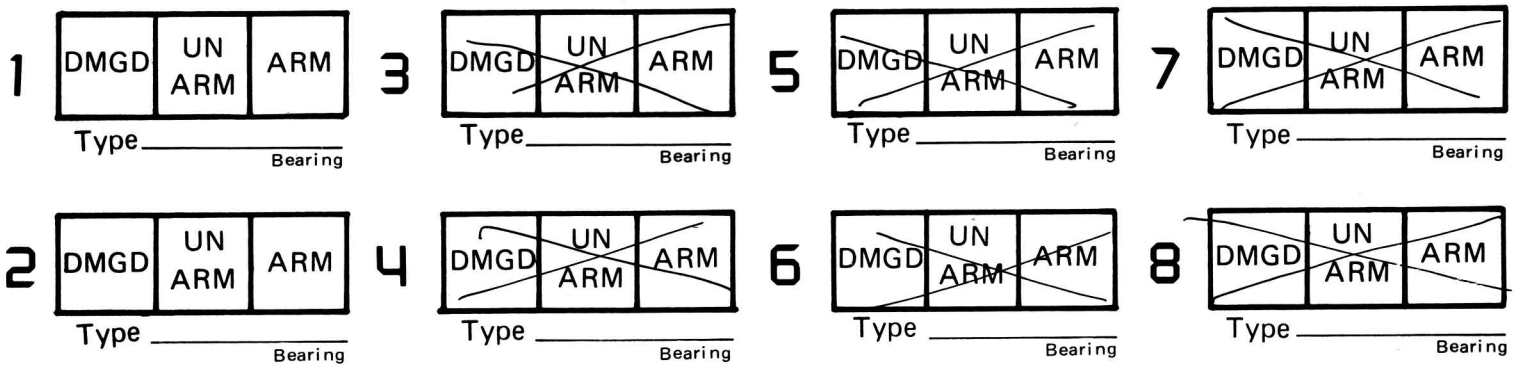


HELM PANELS: This double Standard Helm Panel can be used for 95% of the vessels that would normally be designed. The only exceptions would be those rare ships one would design with more small phasers than could practically be used. In this instance simply photocopy an extra helm panel for the additional weapons. Looking at the Helm panel(s) we see 8 small weapons tracks for torpedo type weapons (can be used also for webs, plasma weapons, and other fixed-power weapons), the movement points available track, the current speed track, several large weapons tracks (for phasers, disruptors, and other variable-power weapons), a turn stress chart, a copy of the firing arc chart, and several weapons firing charts. We will discuss the use of each of these in turn.

HELM

SMALL WEAPONS TRACKS: By small weapons we are not referring to size or damage possibilities, but to the actual physical length of the tracks. These are used normally for photon torpedoes and the like, where the only information needed is whether or not the weapon is damaged, unarmed, or armed. Simply mark out any of these tracks that are not needed. Be sure to mark the type and location of each weapon above each track next to the track's number. When a weapon is fired or damaged you can then move the appropriate counter. The firing arc of the weapon can be logged here also.

On the Larson, there are two FP-2 photon torpedos, so mark out weapons tracks 3 - 8.


1 DMGD UN ARM ARM Type Bearing
3 DMGD UN ARM ARM Type Bearing
5 DMGD UN ARM ARM Type Bearing
7 DMGD UN ARM ARM Type Bearing
2 DMGD UN ARM ARM Type Bearing
4 DMGD UN ARM ARM Type Bearing
6 DMGD UN ARM ARM Type Bearing
8 DMGD UN ARM ARM Type Bearing

MOVEMENT POINTS AVAILABLE TRACK: This track is numbered 0 - 25 for use with all vessels designed with these rules. Simply mark out the unneeded boxes on the track according to how many hexes your vessel can move.

On the Larson, the vessel can move at most, with power being used for nothing else, 11 hexes (20 points of power from the warp engine, 2 from the impulse engine; ratio of 2/1 yields 11 hexes). From this we can see that we will mark out all the boxes numbered higher than 11.

Movement Points Available

0	1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24	25

CURRENT SPEED TRACK: This track is marked sublight, then from warp one through warp ten. This is the fastest normal known speed of any vessel. Simply mark off any unneeded boxes.

The Larson has a top speed of warp 9, so simply mark off the 'warp 10' box.

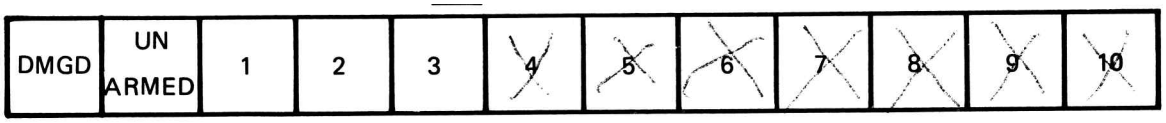
Current Speed

SUB LIGHT	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10

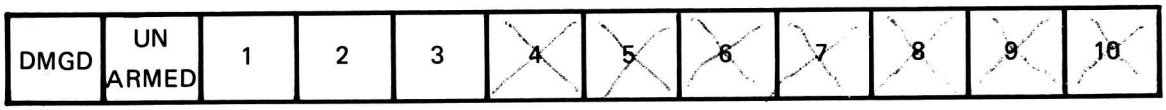
LARGE WEAPONS TRACKS: Again, we are referring to the size of the actual tracks, not the size of the weapons being used. These tracks are marked with DAMAGED, UNARMED, and boxes numbered 1 - 10. These can be used for any of the weapons in this book which can have variable amounts of power put into them. Simply refer to the weapons charts for the appropriate weapon, see what range of power can be put into each, and mark off the unneeded boxes. These tracks can be used for different types of weapons, so be sure to mark the type and location of the individual weapon above each track, next to the track's number. If a weapon is damaged or fired, the counter can then be moved on the appropriate track. It is suggested that the firing arc of the weapon be logged here also.

The Larson has 6 variable power weapons, all of them FH-4 phasers. On the first six tracks, then, we can mark off the unneeded boxes. The FH-4 can have up to 3 points of power put into it, so on each track we will mark off the boxes numbered 4 - 10. As on the Enterprise, 2 of these fire forward, 2 to port, and 2 to starboard. Identify these as below.

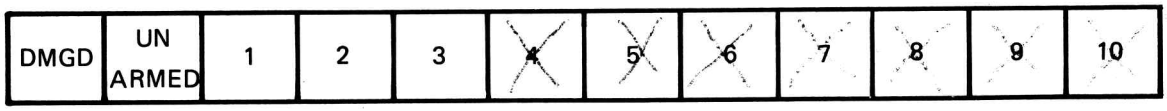
Forward FH-4 Phaser



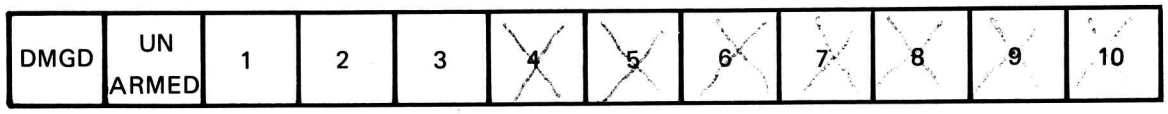
Forward FH-4 Phaser



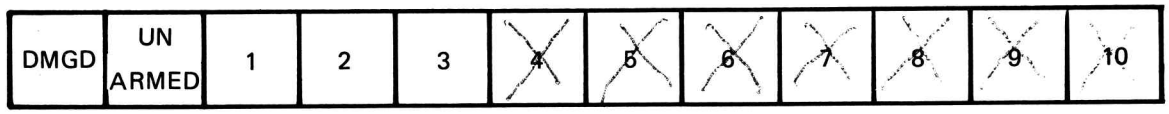
Port FH-4 Phaser



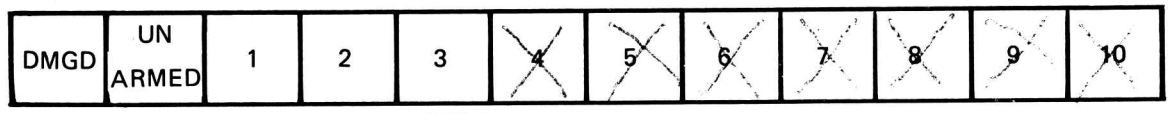
Port FH-4 Phaser



Starboard FH-4 Phaser

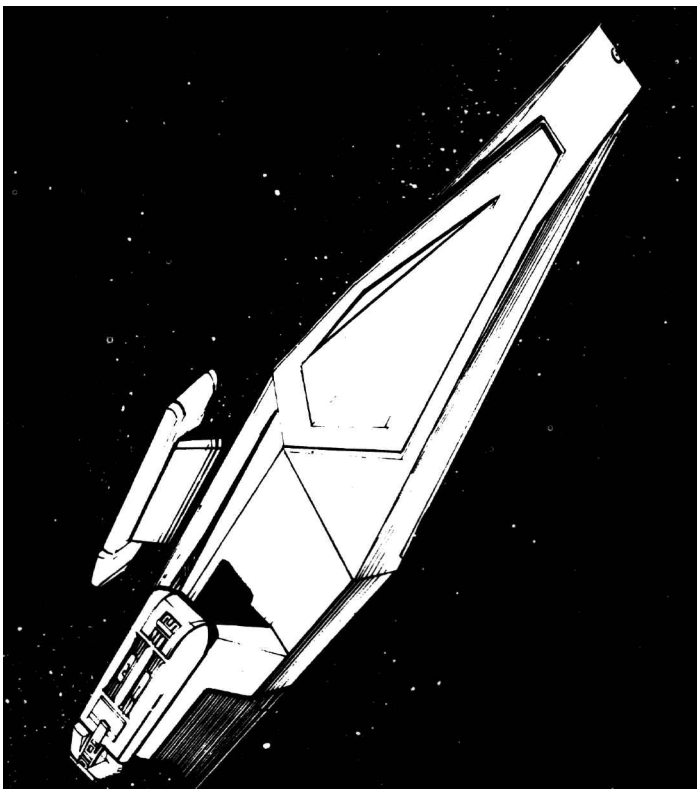


Starboard FH-4 Phaser



TURN STRESS CHARTS: This data is taken from the Stress Chart Tables. Simply fill the data from the correct charts into the blanks provided.

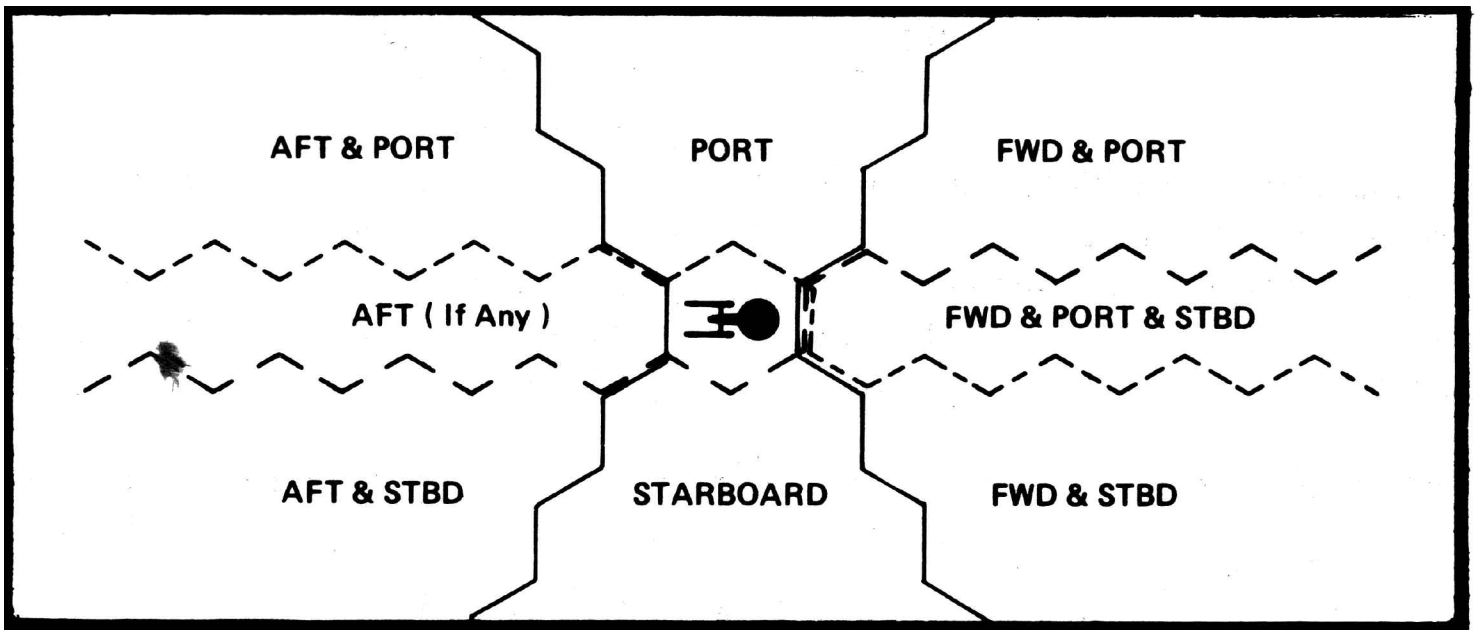
The Larson uses stress charts M/K. Look these up on the tables and fill in as below. Unused spaces are left blank or marked out.



TURN STRESS CHART

Speed	Eng. Stress	Super. Stress
Sub		
W1		
W2		
W3		
W4	1	
W5	1	1
W6	2	1
W7	2	2
W8	3	2
W9	3	3
W10	4	3

FIRING ARC CHART: This is the standard firing arc chart from the ship combat section placed here to remind players of the correct firing arcs. This remains the same from vessel to vessel.



FIRING CHARTS: These are the firing charts used in conjunction with the dice and rules to determine if a hit is made on the target. Simply copy the firing chart data from the firing chart tables onto the blank charts provided. Leave unused ranges blank or mark them out. Each type of weapon on board the vessel will require a separate chart. If the 5 provided are not enough (it should be in 95% of the cases) use a second sheet of paper to keep track of them. Be sure to label each firing chart as to what weapon the chart is to be used for.

The Larson has two weapons, the FP-2 torpedoes and the FH-4 phasers. The FP-2 uses firing chart 3 and the FH-FH-4 uses chart 16. Copy the data as shown below.

Weapon Type	FP-2		FH-4	
Range	To Hit	Dmg+	To Hit	Dmg+
1	1-10	6	1-10	+2
2	1-9		1-10	
3	1-8		1-10	
4	1-7		1-9	
5	1-6		1-8	
6	1-5		1-8	
7	1-4		1-7	
8	1-3		1-6	
9	1-2		1-5	+1
10	1		1-4	
11			1-3	
12			1-2	
13			1	
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

SCIENCES PANEL

There are three of these panels provided, marked A, B, and C. Each of these is used in the same way. The difference is that each has the appropriate damage charts printed on it. Use whichever chart is necessary for the ship design in use. The Superstructure Damage chart has boxes numbered 0 - 50. Mark off the unneeded boxes. The Sensors track will be the same for all vessels.

The Larson has a superstructure value of 12 and uses Damage Charts "C". Therefore, we would use Science panel C and mark off the superstructure boxes numbered 13 - 50.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50													

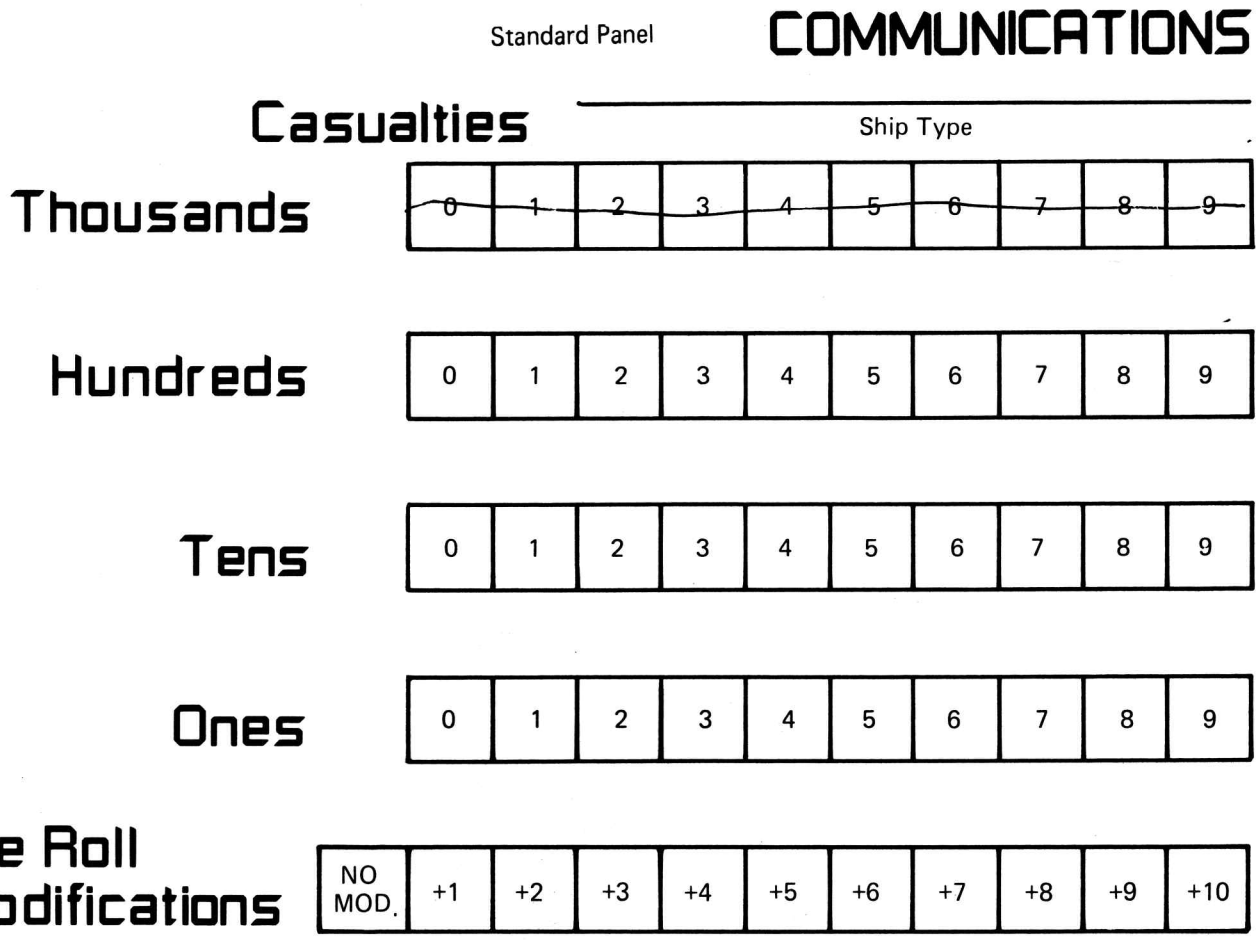
Superstructure Damage

COMMUNICATIONS PANEL

This panel is identical for all vessels. Simply use the tracks necessary according to the number of personnel aboard.

The Larson would not need the thousands track, so it can be marked off.

Standard Panel


COMMUNICATIONS
Casualties
Ship Type
Thousands
0 1 2 3 4 5 6 7 8 9
Hundreds
0 1 2 3 4 5 6 7 8 9
Tens
0 1 2 3 4 5 6 7 8 9
Ones
0 1 2 3 4 5 6 7 8 9
Die Roll Modifications
NO MOD.
+1 +2 +3 +4 +5 +6 +7 +8 +9 +10

SHIP COMBAT SAVING ROLL TABLE

CAPTAIN

1) STARSHIP COMBAT STRATEGY/TACTICS, beginning of turn, no roll is made but skill is compared to opponent's skill.

ENGINEER

Only one roll may be made per turn.

1) WARP DRIVE TECHNOLOGY, made at the beginning of the turn, success gains 1 extra point of power to be applied to total power available track (2 points if roll is 01-05).

2) STARSHIP ENGINEERING (GENERAL), made at the beginning of the turn, success reduces stress on one engine by one step (2 points on one engine or 1 point on each of two engines if the roll is 01-05).

3) WARP DRIVE TECHNOLOGY, made at the beginning of the turn, success allows helm to change overall warp speed by 2 steps instead of 1.

NAVIGATOR

1) DEFLECTOR SHIELD TECHNOLOGY, made at the beginning of the turn, success gains 2 more points of shielding to be used anywhere.

HELMSMAN

1) STARSHIP HELM OPERATION, made any time needed, success allows stress chart rolls to be made one row higher than normal.

2) SHIP'S WEAPONRY TECHNOLOGY, made when firing – may roll twice per turn, success gains a -1 on 'to hit' rolls of weaponry.

SCIENCE OFFICER

1) SHIP'S SENSOR SKILL, made at the beginning of the turn, success gains sensor lock.

COMMUNICATIONS OFFICER

1) STARSHIP COMMUNICATIONS PROCEDURES, may be made anytime, allows difficult tasks to be performed.

Now that we have shown how to design any vessel in ship combat terms and how to design the player panels, let's look at the components of vessels and see what makes up a ship or boat for those who would like to lay out the individual decks. The next section will also be of value for those of you who are not quite sure what constitutes a stateroom, be it Federation or Klingon.

Designing In Detail

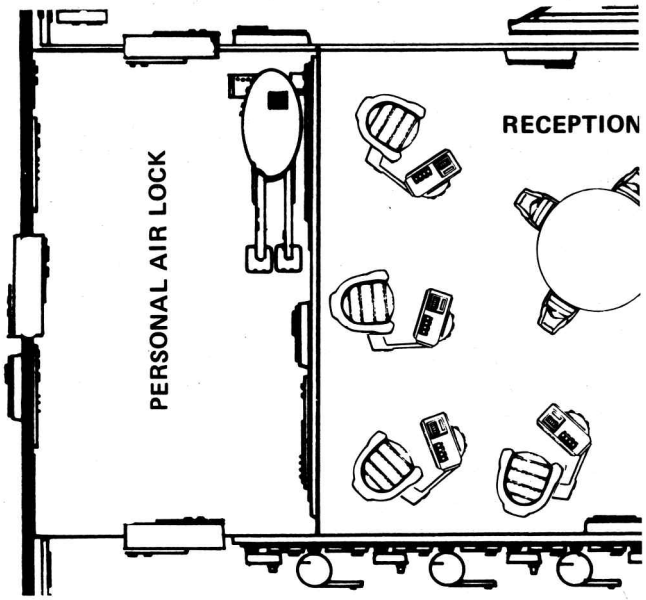
This section is for those of you who are laying out the decks of vessels that you have designed. Included herein are illustrations of various facilities that would be found on vessels in STAR TREK's time. Guidelines are given for differences between cultures. The Klingons, for example, are not exactly known for great crew comfort and spacious private staterooms. Remember that these are guides only.

FASA will vary widely on vessels they design and so should you. Staterooms should NOT look alike on all Federation vessels. Change walls, or exclude item as you desire. This section is intended to assist those of you who are novice ship designers.

AIRLOCK

An airlock is designed primarily for one thing - to allow for easy passage of people or things from one air pressure (or lack of it) to another. Airlocks are basically the same from culture to culture, the size depending on how large an item(s) or how many personnel would normally use it at once. Controls are normally duplicated on both doors, inside and outside of the chamber. Emergency overrides will be found in the engineering section and on the bridge of the vessel.

Number Per Vessel: Minimum of one for all cultures. *(Normal Size:* Normal minimum of three gaming squares, although shape and size vary widely.



BRIDGE

The bridge of a vessel is the nerve of all operations. All ship's functions and operations can be monitored from here. Although bridge size varies greatly, all vessels must have at least one, be it a one-man vessel or a 300,000 ton colony ship. The stations listed below are normal on a bridge, be it a one-man, 2 square facility or a ten man bridge on the larger vessels.

COMMAND - The officer of the watch or ship's captain sits here. Ship's log and communication/computer can be accessed from here on most vessels.

HELM - This station handles the actual maneuvering of the vessel. On many vessels this station also handles the offensive weaponry.

NAVIGATION - Handles travel, plotting of courses between destinations. Works hand in hand with Helm. On many smaller vessels (under 50,000 tons) these two are combined and handled by one person. Handles defensive (deflector shields) weaponry.

COMMUNICATIONS - Handles all communications aboard the vessel, internal and external. Access to computer banks makes cross-reference possible for various forms of communications. Internal communications can be to any individual station or room in the vessel for most cultures.

SCIENCES/COMPUTER - Usually combined into one station. Handles all sensor information received. Data is analyzed, evaluated, and stored in the ship's computer, which can send this data to almost any station aboard the vessel (some cultures, especially the Klingons, severely restrict the locations that can access this data).

NAVIGATION SUBSYSTEMS - Provide visual readout on all navigational equipment and systems on board.

WEAPONS SUBSYSTEMS - Monitor all offensive weapons systems and subsystems on board. On more modern Federation vessels (beginning with the refitted Enterprise) this station is the primary fire control venter, rather than the Helm.

WEAPONS SYSTEMS - Handle all systems relating to defense. On the more current large Federation vessels this may be combined with the station above.

ENGINEERING - All engineering systems are monitored here. All power generation and channelling is controlled from this station.

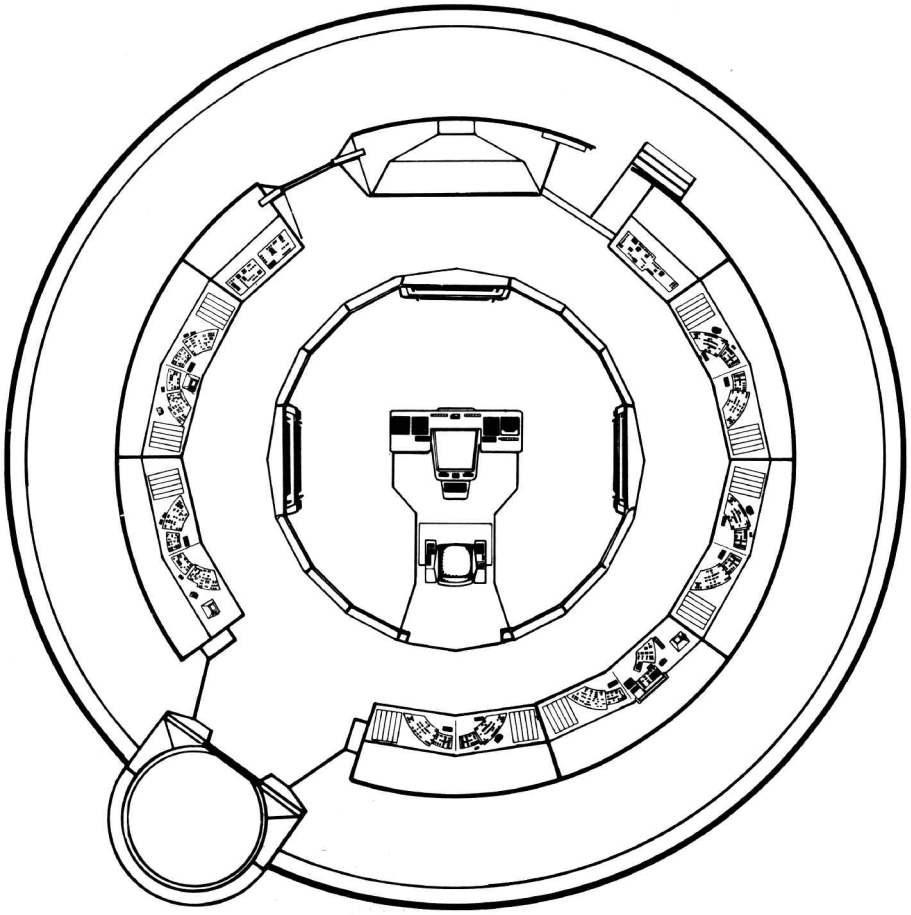
ENGINEERING SUBSYSTEMS - Provide readouts on all subsystems.

ENVIRONMENTAL SYSTEMS - Monitor all environmental systems of the vessel. Any changes in atmosphere, gravity, etc. are controlled and changed from here.

These stations can be combined on smaller vessels. See below.

Number Per Vessel: One bridge is required on all vessels, regardless of size. Two bridges are required on Federation vessels of 75,000 tons or more. Other cultures have no set requirements for two bridges, this being a matter left up to the designing firm and the nature of the vessel.

Normal Size: Minimum of 3 squares on all vessels. Normally there is 1 square per every 3000 tons of vessel for all cultures. Every manned station requires at least 1 square (for command, helm, and navigation) and 2 squares (for all other stations). See appendix F for minimal crew requirements for vessels. Each of the required crew stations listed in this appendix will require a station on the bridge.



BRIG

Used for the holding of personnel under restraint. Temporary brigs can usually be rigged by a competent engineer and his crew. The Klingons tend to have more space devoted to this type of facility.

Number Per Vessel: - Usually one per vessel on vessels over 75,000 tons.

Normal Size: - Varies widely.

CARGO AREAS

Varies widely from vessel to vessel. See TRADER CAPTAINS AND MERCHANT PRINCES for more detail on cargo areas.

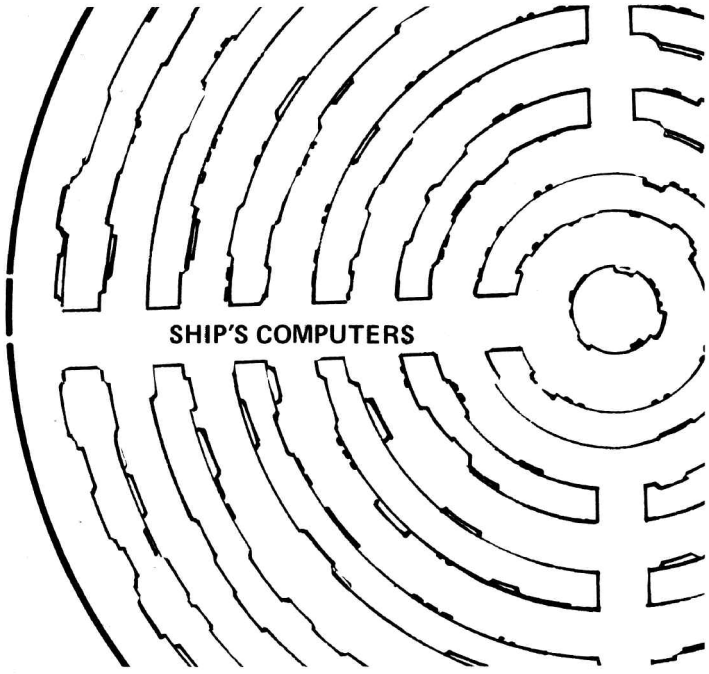
COMPUTER

A ship's computer will vary greatly in size, according to the vessel's mission. The Constitution class, for example, have immense computers storing all of the known data in the Federation, with new data being constantly added. Semibiological computers and semibiological microcircuit chips are in widespread use, allowing data storage of quantities unimaginable in the 20th century. The computers we are referring to here are general purpose computers. The computers used in each department (engineering, navigation, etc.) are assumed to be built into the appropriate control panels. The main (ship's) computer can override any sub-computer at any station.

Number Per Vessel: Varies, but minimum of 1.

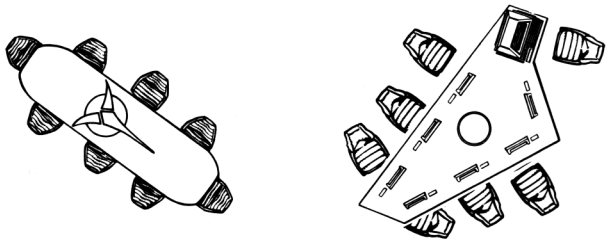
Normal Size: Varies, but minimums are listed below:

Federation –	1 square per 4000 tons.
Klingon –	1 square per 2000 tons.
Klingon –	1 square per 3500 tons.
Tholian –	1 square per 6000 tons.
Gorn –	1 square per 1200 tons.
Orion –	1 square per 3000 tons.



CONFERENCE ROOM/READY ROOM

These rooms are scattered throughout vessels of all cultures. They are used to hold meetings, brief and debrief landing parties, boarding parties, etc. They can be used for study groups or (in the case of Klingons) indoctrination sessions. Sizes and number are highly variable.



DECONTAMINATION ROOMS

These are used to receive personnel and equipment that must be decontaminated for one reason or another.

Number Per Vessel: 1 per vessel for vessels over 100,000 tons (many vessels use cargo areas, conference rooms, etc. for temporary decontamination areas.)

Normal Size: 4 squares.

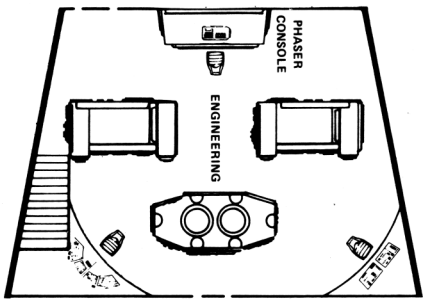
ENGINEERING CONTROLS

Engineering controls are the controls necessary for the 'life' of the ship. They control the engines, life support, all power generated and the channeling of that power, the lights, and anything else that requires power consumption. There may be duplicate panels aboard larger vessels in case one set is destroyed by boarders or malfunctions. These are normally located adjacent to the engines or where the warp nacelles connect to the hull. These controls do not include any pumps, fabrication equipment, etc. These are main controls and equipment only.

Number Per Vessel: Minimum of two sets, one on the bridge (minimal controls, two gaming squares in size normal), the other in the engineering section of the vessel. This is required for all cultures.

Normal Size: Bridge set is 2 - 4 gaming squares in size for all cultures. Sizes for engineering sections vary according to culture and are outlined in the table below:

Federation	1 sq per 10,000 tons, minimum of 6 squares.
Klingon	1 sq per 8,000 tons, minimum of 8 squares.
Romulan	1 sq per 9,000 tons, minimum of 7 squares.
Tholian	1 sq per 15,000 tons, minimum of 4 squares.
Gorn	1 sq per 6,000 tons, minimum of 10 squares.



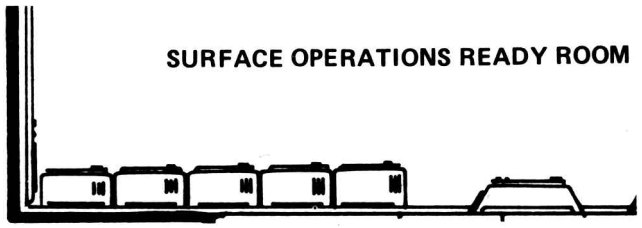
ENVIRONMENTAL SUIT LOCKERS

These are lockers for the storage of environmental suits. Each gaming square of locker holds 10 suits. These lockers are normally scattered throughout the vessel for emergency use. Lockers are kept unlocked for easy access at all times.

Number Per Vessel: Varies widely, as below:

Federation	1	locker	per every	10	crew.
Klingon	1	locker	per every	30	crew.
Romulan	1	locker	per every	10	crew.
Tholian	1	locker	per every	10	crew.
Gorn	1	locker	per every	20	crew.
Orion	1	locker	per every	5	crew.

Normal Size: 1 or 2 gaming squares.

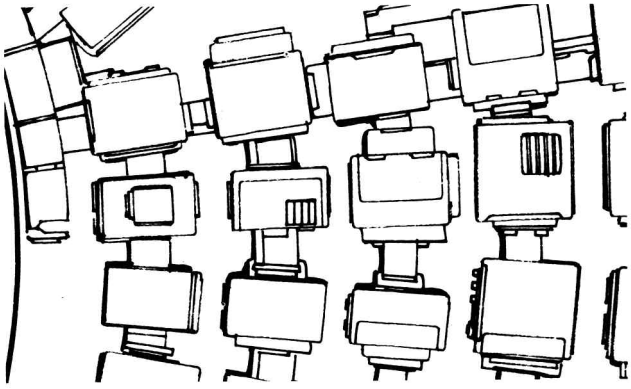


FABRICATION EQUIPMENT

This equipment comes in many shapes and sizes, a few of which are illustrated below. There are four basic types of fabrication equipment: food, organic, non-organic metallic, and non-organic non-metallic. These are not normally carried on vessels of under 25,000 tons at all, except for food fabricators. The use of these devices eliminates the need for numerous 'supply' stops, as raw materials on board, and recycled materials are used in a constant cycle of usage. Little is wasted aboard a vessel.

Number Per Vessel: Varies, as below.

Normal Size: On vessels of all cultures: Normally 1 gaming square per crew member.



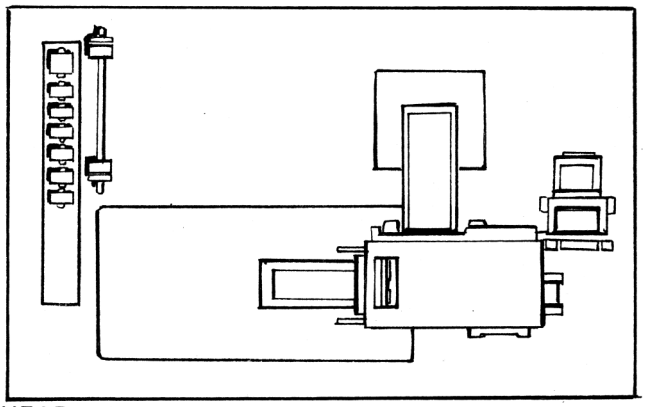
GYMNASIUM

Recreation aboard a vessel is important, for the mind as well as the body. Crew members are encouraged to work out daily in most cultures and races. Gyms aboard

the Klingon and Romulan vessels are separated either in time or place according to rank or social status. Many vessels have swimming pools, firing ranges, boxing arenas, etc. for crew usage.

Number Per Vessel: 1 or 2, depending on size of vessel. Vessels under 20,000 tons normally do not have gyms. (Sometimes they do have minimal weight equipment). Vessels between 20,000 and 50,000 tons normally have 1 gym, and those over 50,000 normally have 2 facilities.

Normal Size: Highly variable. Normally 1 square per every 2 crew members is devoted to physical activity facilities fo some type, be it gym, pools, firing ranges, etc.



HEAD

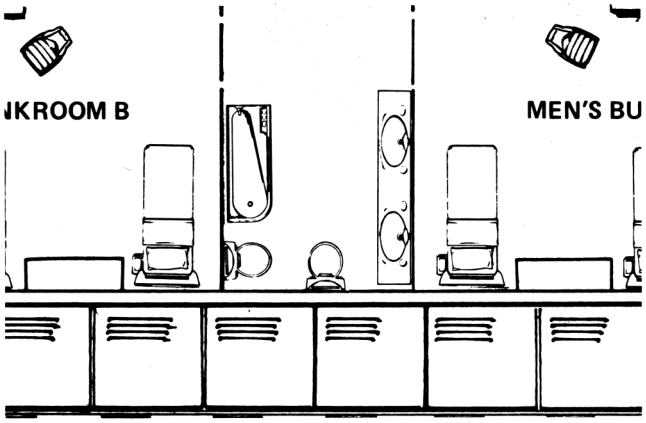
This is a sanitary facility. The type can vary widely according to the type of crew and/or passengers. Sanitary facilities can be of many types, be it the old Earth water shower, ultraviolet waves, or more. All waste is recycled for use in the ship's fabricators.

Number Per Vessel: Varies widely.

Normal Size: Usually 1 or 2 squares. Usually 1 head per x number of crew as listed below. Passengers usually have 1 head per every 2 passengers.

Federation	1 per every 2 crew
Klingon	1 per every 10 crew
Romulan	1 per every 6 crew
Tholian	1 per every 2 crew
Gorn	1 per every 15 crew
Orion	1 per every 5 crew

(Remember, these are averages only)

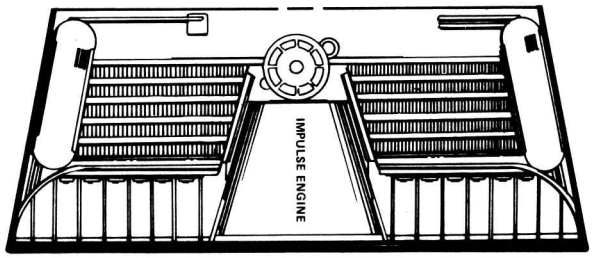


IMPULSE ENGINE

Although covered in detail in the ship combat design section, we will mention briefly that a vessel will only have one impulse engine. Power sources vary widely from culture to culture and even within a culture. Impulse engines are controlled normally from panels adjacent to the engine itself and from overrides in the engineering section and on the bridge's engineering consoles. Under normal circumstances it will take five minutes to bring an impulse engine to 'life' from a cold start. An engineer's skills may be used at the gamemaster's discretion to modify this figure.

Number Per Vessel: One, all cultures.

Normal Size: See IMPULSE ENGINES, in first section of this booklet.



LABORATORIES

Labs vary greatly from vessel to vessel and there is no standard number of gaming squares devoted to such. Labs may be of any type, according to mission of the vessel. Many vessels carry no labs of any type. Some common types of labs are listed below.

CHEMISTRY - For the study of unknown substances encountered.

ENERGY - For the study of various forms of energy and application of same.

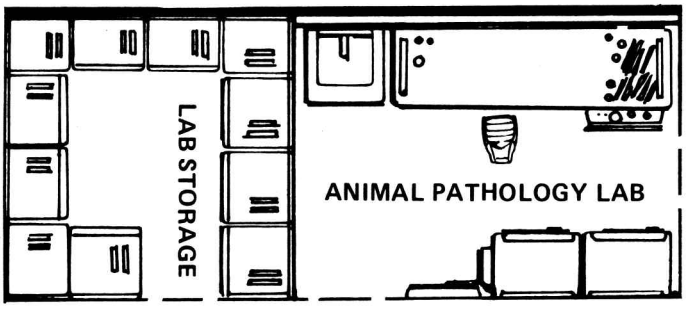
BIOLOGY - For the study of life forms.

GEOLOGY - Primarily for the study of planetary (including asteroids and such) structure and origins.

PHYSICS - For the study of any of the physical sciences.

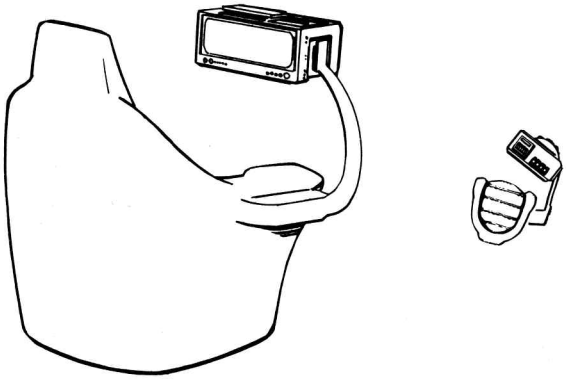
BOTANICAL LABS - For the study of plant life.

COMMUNICATIONS - For studies in new methods of communications.



LIBRARIES/MEDIA CENTERS

These are not required on all vessels but are common on vessels that are on missions of long duration, and on research vessels. The Federation strongly believes in library facilities on most of their vessels. All Federation vessels carry library/small computer chairs as illustrated below:



These chairs (and most other cultures have similar equipment) can access many books, both technical and leisure. Many have keyboards or voice recorders so that letters or other materials can be recorded on magnetic tape, which can then be 'popped out' of the device for storage.

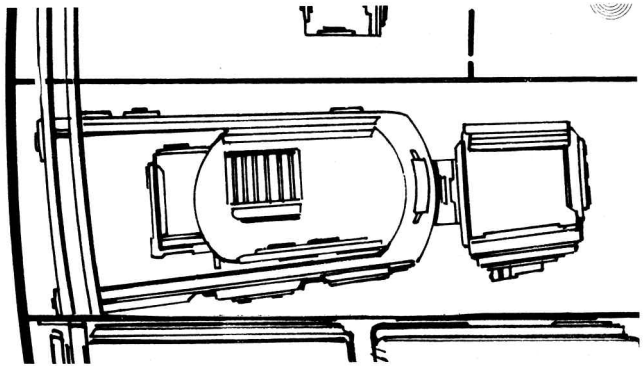
LIFE SUPPORT

This is the equipment necessary for the maintenance of life on the vessel. The controls for life support are on the bridge in a seperate environmental systems station on vessels of greater than 50,000 metric tons. Duplicate controls are in the engineering section. On vessels of less than 50,000 tons life support is controlled from the engineering station on the bridge. An override is located in the engineering section. From either life support station (bridge or override) life support can be maintained or shut down anywhere on the vessel, even in individual rooms. The life support controls on a vessel can control the environment in any location and modify it for almost any life form in the STAR TREK era. It takes 2 minutes to 'vacuum' a room on a vessel, and 5 minutes to make a 'vacuumed' room occupiable again.

The equipment necessary for life support (pumps, water tanks, etc.) is highly variable depending on the ship's crew size and mission length. The figures below represent a good average size to use, but are by no means considered a fixed rate.

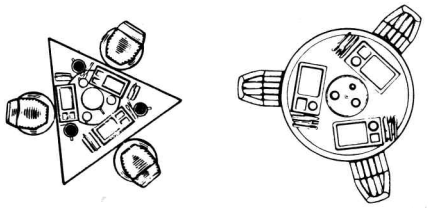
Number Per Vessel: Bridge set (environmental station) and duplicate engineering override on vessels of 50,000 tons and greater. Located on engineering console and in engineering on smaller vessels of all cultures.

Normal Size: 2 - 4 squares at environmental station. On smaller vessels and in engineering sections this equipment is already figured into the engineering section. The actual equipment normally occupies 1/20th of a vessel's space. This is highly variable.



MESS FACILITIES

These are facilities for dining. Normally the Federation, Orion, and Tholian facilities are more spacious and pleasant. The Gorn, Klingon, and Romulan facilities tend to be more spartan. Sizes and number vary widely.



RECREATION

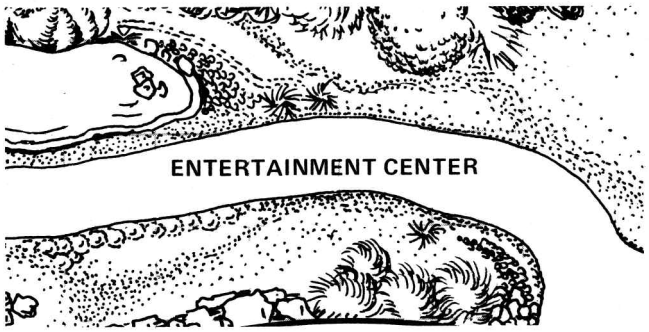
These are spacious on Federation vessels (see the Enterprise description booklet), and are covered under gym and library in addition to the notes here. Recreation can vary widely from culture to culture and even within a culture, and the various forms of recreation are too numerous to cover in detail here. This also covers lounges for informal gatherings.

Number Per Vessel: At least one facility of some type on all vessels over 5000 tons.

Normal Size: Usually a ratio of squares to crew as below:

Federation	1	square	per	every	5	crew
Klingon	1	square	per	every	8	crew
Romulan	1	square	per	every	5	crew
Tholian	1	square	per	every	20	crew
Gorn	1	square	per	every	12	crew
Orion	1	square	per	every	6	crew

These are minimums and are usually higher on vessels with long tours of duty.



SENSORS

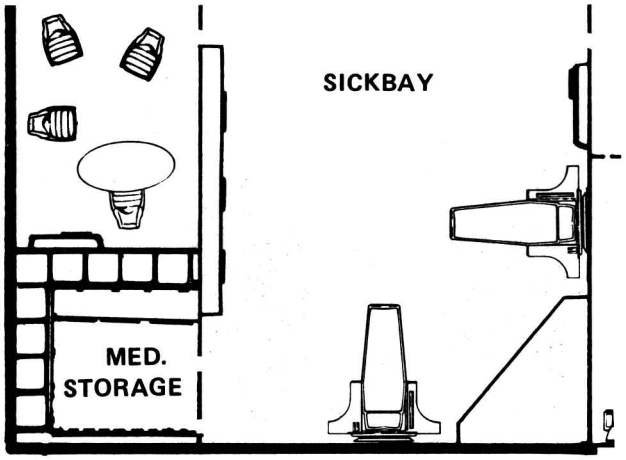
These are covered in the basic rulebook. There is no set size, although the controls are usually on the Bridge Science panel. All vessels carry sensors.

SICK BAY

The equipment found here is covered in the basic rulebook. Larger ships will have dentistry, psychiatry, and more. Small-crewed vessels will have someone aboard medically qualified to handle most instances. Even though they may not have sick bays, they will carry some equipment and use staterooms in emergencies.

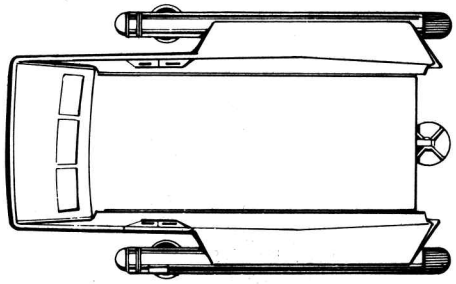
Number Per Vessel: Minimum of 1 on vessels of 100 crew or more.

Normal Size: Varies widely. Federation, Orion, Tholian, and Romulan sick bays tend to be larger and better equipped than Gorn or Klingon.



SHUTTLE BAYS

This is a storage and launch facility for shuttle craft. There is no set size, as this depends on the number of shuttlecraft aboard and their size.

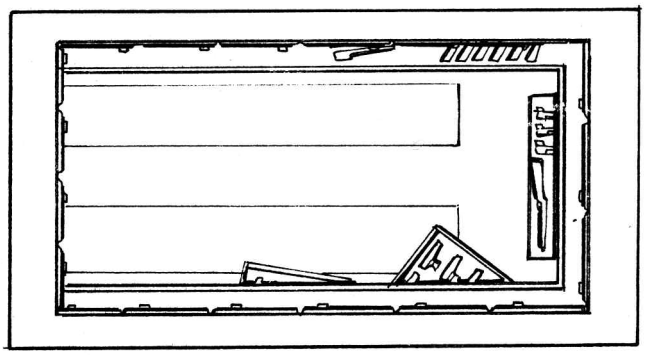


SMALL ARMS ROOM

This is a locked storage area for hand weapons. Only Command and Security personnel have the access codes for these areas. These are normally located near transporter rooms and brigs.

Number Per Vessel: 1 for vessels under 50,000 tons. 2 or more for larger vessels.

Normal Size: 3 or more squares.



STATEROOMS

These are the living quarters for the crew and passengers. These tend to be more spacious and well furnished on Federation, Orion, and Tholian vessels. Most of the Federation sleeping facilities (beds) are equipped with anti-grav plates for zero-gee or low-gee sleeping. Federation, Orion, Tholian, high-ranking Klingon, Romulan, and Gorn staterooms are normally equipped with other furniture according to the individual's tastes, a work area, a small living area with a computer station, or other comfort facilities. Most of these are also equipped with their own head. See the Enterprise and D-7 deck plans for ideas.

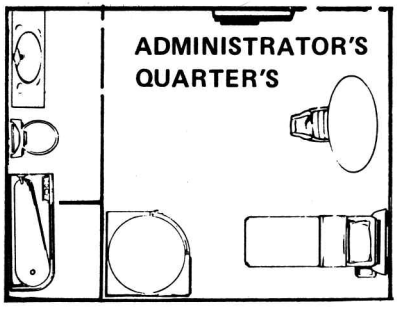
Staterooms on passenger vessels can be quite luxurious, as evidenced by the Royal Suites on the SUNSHINE class passenger liners. Some of the suites on the SUNSHINE class make many 20th century apartments look like closets. Some of these suites have private physical fitness centers with staff. The largest suite on the SUNSHINE class has a small private pool!

Number Per Vessel: According to crew size.

Normal Size: According to the table below:

Federation	9	squares	per	crew	member
Klingon	2	squares	per	crew	member
Romulan	6	squares	per	crew	member
Tholian	8	squares	per	crew	member
Gorn	2	squares	per	crew	member
Orion	7	squares	per	crew	member

Remember, these are averages only. Officer and passenger quarters will usually be larger than the normal crew quarters on a vessel.

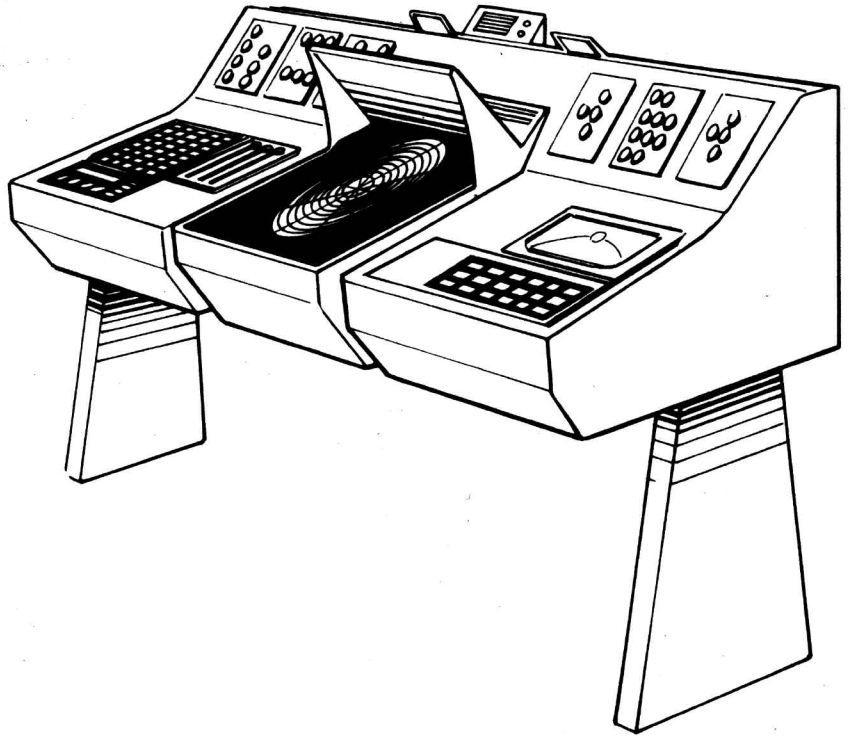


STREAMLINING

Streamlining a vessel enables it to land planetside for direct repairs at a base or for direct embarkation/debarkation of personnel/cargo. Streamlining does not mean the vessel need look like a 20th century airplane. The term indicates that the vessel has maneuvering thrusters and landing "legs" enabling it to land planetside. The "legs" may merely mean the vessel has a flat bottom hull so that it can "sit" on the ground. The cost of streamlining is .0001 MCr per ton of vessel. Streamlining is restricted to vessels under 75,000 tons because of superstructure size/ stress limitations.

TRACTOR BEAMS

All vessels carry tractor beams. The equipment used for tractors are built into the hull in the same manner as the deflector screens. Tractors draw power as described in the basic ship combat rules. Tractors may be used as pressor beams. That is, instead of drawing an object to the vessel, the power flow is reversed through the tractors to push the object away.



TRANSPORTERS

The use of these is covered in the basic rulebook and needs not be covered in detail here.

Number Per Vessel: Minimum of one small (2 - 9 personnel) per every 50,000 tons. Minimum of one emergency (10 - 30 personnel) per vessel of over 150 crew. Cargo transporters as needed.

Normal Size: (For controls, room, and pads) Minimum of 3 squares per personnel pad. Cargo transporters vary widely.

TURBOLIFTS

These "elevators" will take you where you need to go in a hurry. Smaller vessels, of course, do not have these, as there is no need for them. There is no set number or size for these, being placed where the designerfeels they're needed.

WARP ENGINES

These are covered in the earlier sections of this booklet. Controls are in the engineering section.

WEAPONS FIRE CONTROL CENTERS

These are the squares occupied by the controls for the various weapons systems. Although weapons are fired from the bridge, all subsystems and checks are carried out here. Weapons can be fired from here if the primary fire control is damaged on the bridge.

Number Per Vessel: 1 on vessels over 10,000 tons.

Normal Size: 2 or 3 squares.

APPENDIX A

GLOSSARY ADDENDUM

These are additions to the glossary given in the basic rulebook. It is a short list consisting of a few terms necessary to those involved in vessel design. Any terms referring to shipboard systems or rooms will be found in either the basic rulebook or in the DESIGNING IN DETAIL section of this book.

AFT - To the rear of the vessel.

BOAT - Any vessel incapable of warp speed.

FORWARD - Toward the front of the vessel.

PORT - The left side of a vessel as one faces forward.

SHIP - Any vessel capable of sublight or warp speeds.

STARBOARD - The right side of a vessel as one faces forward.

VESSEL - Any controlled (manned or unmanned) object capable of transporting personnel or objects throughout space.

APPENDIX B

Thanks to Greg Poehlein for these english/metric conversion tables. This will be useful to those of us still used to dealing with feet and inches.

TABLE 1
ENGLISH/METRIC CONVERSIONS

=LENGTH=			
Foot	Meter	3.281	0,3048
Inch	Centimeter	0.3937	2.54
Miles	Kilometers	0.6214	1.609
Yards	Meter	1.094	0.9144
=VOLUME=			
Cubic Feet	Cubic Meters	35.31	0.0283
Cubic Inches	Milliliters	0.0610	16.39
Gallons	Liters	0.2642	3.785
=WEIGHT=			
Ounces	Grams	0.0353	28.329
Pounds	Kilograms	2.205	0.4535
Tons (short)	Tons (metric)	1.1023	0.9072

TABLE 2
METRIC TO METRIC CONVERSIONS

=LENGTH=		
1 Kilometer (km)	EQUALS	1000 Meters
1 Meter (m)	EQUALS	100 Centimeters
1 Centimeter (cm)	EQUALS	10 Millimeters (mm)
=VOLUME=		
1 Cubic Meter	EQUALS	1000 Liters
1 Liter (l)	EQUALS	1000 Milliliters
1 Milliliter (ml)	EQUALS	1 Cubic Centimeter (cc)
=WEIGHT=		
1 Metric Ton	EQUALS	1000 Kilograms
1 Kilogram (kg)	EQUALS	1000 Grams
1 Gram (gr)	EQUALS	1000 Milligrams (mg)

TABLE 3
ENGLISH TO ENGLISH CONVERSIONS

=LENGTH=		
1 Mile	EQUALS	1760 Yards
1 Yard	EQUALS	3 Feet
1 Foot	EQUALS	12 Inches
=VOLUME=		
1 Cubic Foot	EQUALS	7.4805 Gallons
1 Gallon	EQUALS	4 Quarts
1 Quart	EQUALS	2 Pints
1 Pint	EQUALS	4 Fluid Ounces
=WEIGHT=		
1 Short Ton	EQUALS	2000 Pounds
1 Pound	EQUALS	16 Ounces
1 Ounce	EQUALS	16 Drams

TABLE 4
SPECIAL MEASUREMENTS

1 Parsec	EQUALS	3.26 Light Years
1 Light Year	EQUALS	5.88 Trillion Miles
1 Light Year	EQUALS	9.46 Trillion Kilometer
1 Standard Cargo Unit	EQUALS	67.5 Cubic Meters

APPENDIX C

VESSEL CLASS	VESSEL NAME
VESSEL TYPE	HULL NUMBER
DESIGNER	CONTRACTOR
DATE DESIGNED	COST
DATE HULL LAID DOWN	
DATE OF CONSTRUCTION COMPLETION	

DIMENSIONS

OVERALL LENGTH
OVERALL WIDTH
OVERALL HEIGHT
DECK CEILING HEIGHT
CARGO UNITS
METRIC TONNAGE (EMPTY)

MOBILITY DATA

WARP ENGINES

TYPE
MANEUVER POINT RATIO
POWER UNITS
STRESS CHARTS
MAX SAFE CRUISING SPEED
EMERGENCY SPEED

DEFLECTORS

TYPE
POWER RATIO

IMPULSE ENGINE

TYPE
POWER UNITS

ARMAMENTS

TYPE												
LOCATION												
FIRING CHART												
POWER RANGES												

OTHER FEATURES

TRANSPORTERS	DAMAGE CHART
SHUTTLECRAFT	
TRACTOR BEAMS	
CREW REQUIREMENTS	
PASSENGER FACILITIES	

VESSEL HULL NUMBERS AND NAMES

APPENDIX D

SUPERSTRUCTURE/ ENGINE DAMAGE REPAIR

After a situation or adventure your vessel may be in need of repair. This is how you fix your vessel up after battle.

1/3 of any engine and/or superstructure damage may be repaired by the vessel's crew within 24 hours of the damage being inflicted. The other 2/3 must be repaired by placing the vessel in drydock or by having a fleet service vessel work on it. These points are repaired at the rate of 1 engine point every 2 days, and 1 superstructure point every 3 days.

Additional superstructure points (beyond what were on the ship after initial construction) may be added at 4 times the normal costs for additional points. These points will take 30 days per point to be added due to the extreme amount of redesign that would be necessary.

APPENDIX E

SHUTTLECRAFT DATA

See Enterprise and D-7 plan descriptions for more information.

CULTURE	TYPE	CREW	PASSENGERS	SPEED
Federation	S-3	1	7	.89W
	S-4	1	5	.82W (Aqua)
	S-5	1	14	.76W
	S-6	2	21	..56W
Klingon	J-1	1	6	.83W
	J-2	1	3	.74W (Aqua)
	J-3	2	17	.68W
Romulan	H-1	1	7	.82W
	H-2	2	12	.73W
Tholian	Q-1	1	6	.89W
Gorn	G-1	1	3	.75W
	G-2	1	3	.75W (Aqua)
	G-3	2	10	.72W
Orion	X-1	1	8	.85W
	X-2	2	18	.80W

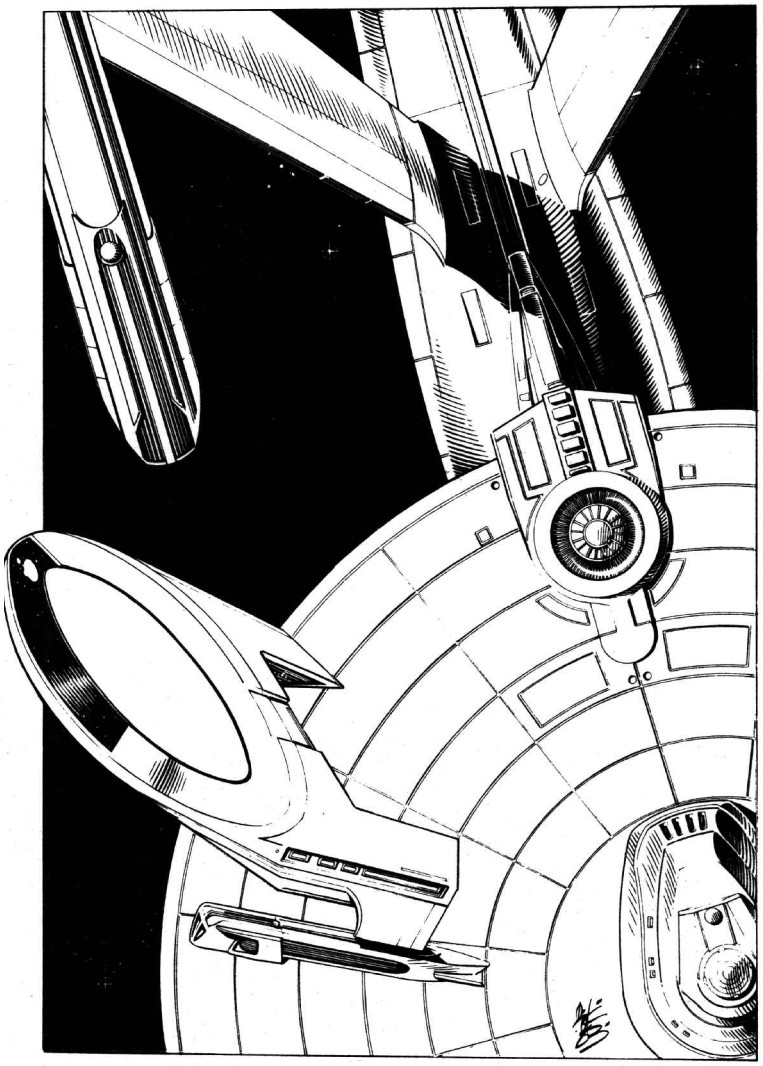
APPENDIX F

CREW SIZES

These are the minimum required crew on ships over 3000 tons.

Captain	1 per vessel (Can perform second duty on vessels under 5000 tons)
Navigator	1 per 5000 tons for vessels under 16,000 tons. 1 per 40,000 tons for vessels over 16,000 tons.
Helmsman	1 per 5000 tons for vessels under 16,000 tons. 1 per 40,000 tons for vessels over 16,000 tons.
Engineer	1 per 5000 tons all vessels.
Science	1 per 5000 tons for vessels under 16,000 tons. 1 per 40,000 tons for vessels over 16,000 tons.

Communications as above for Science



Appendix G

Warp Factor	Relative L. S.	Distance 1 light year	10 ly	100 ly
01	1x	365 days	10 years	100 years
02	8x	46 days	460 days	12.6 years
03	27x	13.5 days	130 days	3.5 years
04	64x	5.7 days	57 days	1.5 years
05	125x	2.9 days	29 days	9.6 mo
06	216x	1.7days/38hrs	17 days	5.6 mo
07	343x	24 hours	10 days	3.3 mo
08	512x	17 hours	7 days	9 weeks
09	729x	12 hours	5 days	7 weeks
10	1000x	8.75 hours	3.6 days	36 days
15	- subspace -	2.6 hours	26 hours	11 days

WARP THEORY
Base Travel Times

1 year = 365d = 12mo = 52 weeks = 8,760 hours
1mo = 4 weeks = 30 days

Some typical In-system Distances			
Sol to	A.U.	Light Time from	
Mercury	0.39	199s	3.2m
Venus	0.72	360s	6m
Earth	1	499s	8.3m
Mars	1.5	760s	12.6m
Jupiter	5.2	2595s	43.2m
Saturn	9.5	4759s	1h19m20s
Uranus	20	9575s	2h39m40s
Neptune	30	14998s	4h06m00s
Pluto	40	19680s	5h30m00s
Sedna	520	43200s	12h20m00s
Oort Cloud	50k	~605ks	7 light days

TRAVEL TIME X MULTIPLIER = TRAVEL TIME
(Known Warp speed) (from table below) (New Warp Speed)
To convert decimal remainders (days) to hours, multiply by 24
To convert decimal remainders (hours) to minutes, multiply by 60

	Warp 1 1C	Warp 2 8C	Warp 3 27C	Warp 4 64C	Warp 5 125C	Warp 6 216C	Warp 7 343C	Warp 8 512C	Warp 9 729C	Warp 10 1000C	Subspace Radio Warp 15 3375C
Warp 1 1C	1	.125	.037	.0156	.008	.0046	.0029	.0020	.0014	.001	.0003
Warp 2 8C	8	1	.2963	.125	.064	.037	.0233	.0156	.011	.008	.0024
Warp 3 27C	27	3.375	1	.4219	.216	.125	.0787	.0527	.037	.027	.008
Warp 4 64C	64	8	2.3704	1	.512	.2963	.1866	.125	.0878	.064	.019
Warp 5 125C	125	15.625	4.6296	1.9531	1	.5787	.3644	.2441	.1715	.125	.037
Warp 6 216C	216	27	8	3.375	1.728	1	.6297	.4219	.2963	.216	.064
Warp 7 343C	343	42.875	12.704	5.3594	2.744	1.588	1	.6699	.4705	.343	.1016
Warp 8 512C	512	64	18.963	8	4.096	2.3704	1.4238	1	.7023	.512	.1517
Warp 9 729C	729	91.125	27	11.391	5.832	3.375	2.1254	1.4238	1	.729	.216
Warp 10 1000C	1000	125	37.037	15.625	8	4.6296	2.9155	1.9531	1.3717	1	.2963
Time to Travel 1 Light Year	1 year	45days 15 hrs	13 days 12.12 hrs	5 days 16.7 hrs	2 days 22.1 hrs	1 day 16.3 hrs	1 day 1.4 hrs	17 hours 31 mins	12 hours 16 mins	8 hours 46 mins	2 hours 38 mins
Time to Travel 1 Parsec	3.26 yrs	148 days 18 hrs	44 da.ys .6 hrs	18 days 13.5 hrs	9 days 12.5 hrs	5 days 11.4 hrs	3 days 10.8 hrs	2 days 9.11 hrs	1 day 16 hrs	1 day 4.6 hrs	8 hrs 34 min

Standard Panel

COMMUNICATIONS

Casualties

Ship Type

Thousands	0	1	2	3	4	5	6	7	8	9
Hundreds	0	1	2	3	4	5	6	7	8	9
Tens	0	1	2	3	4	5	6	7	8	9
Ones	0	1	2	3	4	5	6	7	8	9

Die Roll Modifications	NO MOD.	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10

SHIP COMBAT SAVING ROLL TABLE

CAPTAIN

1) STARSHIP COMBAT STRATEGY/TACTICS, beginning of turn, no roll is made but skill is compared to opponent's skill.

ENGINEER

Only one roll may be made per turn.

1) WARP DRIVE TECHNOLOGY, made at the beginning of the turn, success gains 1 extra point of power to be applied to total power available track (2 points if roll is 01-05).

2) STARSHIP ENGINEERING (GENERAL), made at the beginning of the turn, success reduces stress on one engine by one step (2 points on one engine or 1 point on each of two engines if the roll is 01-05).

3) WARP DRIVE TECHNOLOGY, made at the beginning of the turn, success allows helm to change overall warp speed by 2 steps instead of 1.

NAVIGATOR

1) DEFLECTOR SHIELD TECHNOLOGY, made at the beginning of the turn, success gains 2 more points of shielding to be used anywhere.

HELMSMAN

1) STARSHIP HELM OPERATION, made any time needed, success allows stress chart rolls to be made one row higher than normal.

2) SHIP'S WEAPONRY TECHNOLOGY, made when firing — may roll twice per turn, success gains a -1 on 'to hit' rolls of weaponry.

SCIENCE OFFICER

1) SHIP'S SENSOR SKILL, made at the beginning of the turn, success gains sensor lock.

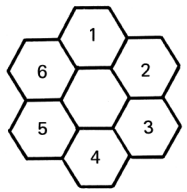
COMMUNICATIONS OFFICER

1) STARSHIP COMMUNICATIONS PROCEDURES, may be made anytime, allows difficult tasks to be performed.

NAVIGATOR

Deflectors

1 Forward	2 Starboard Forward	3 Starboard Aft	4 Aft	5 Port Aft	6 Port Forward
DMGD	DMGD	DMGD	DMGD	DMGD	DMGD
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9
10	10	10	10	10	10
11	11	11	11	11	11
12	12	12	12	12	12
13	13	13	13	13	13
14	14	14	14	14	14
15	15	15	15	15	15
16	16	16	16	16	16



DMGD
OPER

Tractor Beam

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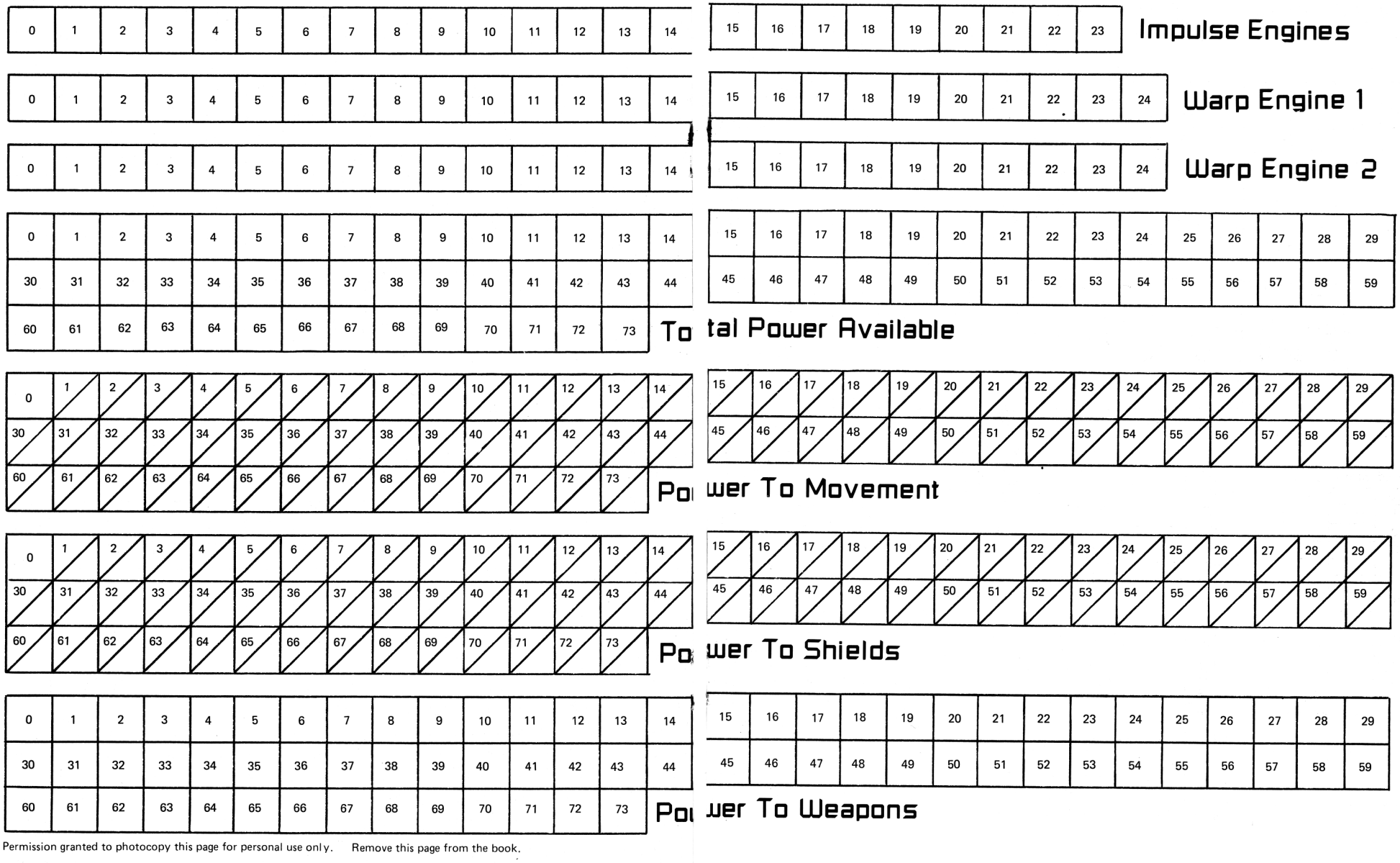
ENGINEERING



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HELM

1	DMGD	UN ARM	ARM	3	DMGD	UN ARM	ARM	5	DMGD	UN ARM	ARM	7	DMGD	UN ARM	ARM	
	Type		Bearing		Type		Bearing		Type		Bearing		Type		Bearing	
2	DMGD	UN ARM	ARM	4	DMGD	UN ARM	ARM	6	DMGD	UN ARM	ARM	8	DMGD	UN ARM	ARM	
	Type		Bearing		Type		Bearing		Type		Bearing		Type		Bearing	

0	1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24	25

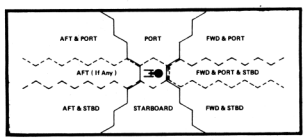
Movement Points Available

Current Speed

SUB LIGHT	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10

TURN STRESS CHART

Speed	Eng. Stress	Super. Stress
Sub		
W1		
W2		
W3		
W4		
W5		
W6		
W7		
W8		
W9		
W10		



Weapon Type										
Range	To Hit	Dmg+	To Hit	Dmg+	To Hit	Dmg+	To Hit	Dmg+	To Hit	Dmg+
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										

	Weapon Type and Bearing											
1		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
2		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
3		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
4		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
5		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
6		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
7		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
8		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
9		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
10		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
11		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
12		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
13		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10
14		DMGD	UN ARMED	1	2	3	4	5	6	7	8	9	10

Standard Panel **SCIENCE A**

DMGD 2	DMGD 1	OPER	LOCK

Sensors

Ship Style

Superstructure Damage

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50													

DAMAGE CHARTS A (ENGINE FORWARD)

FORWARD	DIE ROLL	STARBOARD-FORWARD	DIE ROLL	PORT-FORWARD
Sensors out 1-2 turns	1	Sensors out 1-2 turns	1	Sensors out 1-2 turns
Forward shield gen damaged (.05)	2	Stbd-Fwd shield damaged	2	Port-fwd shield gen damaged
One forward weapon damaged	3	Starboard warp engine	3	Port warp engine
Superstructure (1)	4	Starboard warp engine	4	Port warp engine
Superstructure (2)	5	Starboard warp engine (2)	5	Port warp engine (2)
One forward weapon damaged	6	Starboard warp engine	6	Port warp engine
Port warp engines	7	Superstructure (1)	7	Superstructure (1)
Starboard warp engine	8	Superstructure (2)	8	Superstructure (2)
Bridge personnel out	9	One stbd-fwd weapon damaged (.05)	9	One port-fwd weapons damaged (.05)
Bridge personnel out	10	Bridge personnel out	10	Bridge personnel out

AFT	DIE ROLL	STARBOARD-AFT	DIE ROLL	PORT-AFT
Tractor beam damaged	1	Starboard warp engine	1	Port warp engine
One aft weapon damaged (.05)	2	One stbd-sft weapon damaged	2	One port aft weapon damaged
Superstructure (1)	3	Impulse engine (.02)	3	Impulse engine (.02)
Superstructure (2)	4	Superstructure (.02)	4	Superstructure (.02)
Superstructure (3)	5	Superstructure (1)	5	Superstructure (1)
Impulse engine	6	Superstructure(1)	6	Superstructure (1)
Impulse engine	7	Superstructure (2)	7	Superstructure (2)
Starboard warp engine	8	Superstructure (5)	8	Superstructure (5)
Port warp engine	9	Superstructure (5)	9	Superstructure (5)
Aft shield generator damaged	10	Stbd-Aft shield gen dmaaged	10	Port aft shield gen damaged

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Standard Panel **SCIENCE B**

DMGD 2	DMGD 1	OPER	LOCK

Sensors

Ship Style

Superstructure Damage

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50													

DAMAGE CHARTS B (ENGINE CENTRAL)

DIE ROLL	FORWARD	DIE ROLL	STARBOARD-FORWARD	DIE ROLL	PORT-FORWARD
1	Sensors out 1-2 turns	1	Sensors out 1-2 turns	1	Sensors out 1-2 turns
2	Forward shield generator damaged	2	Stbd forward shield gen damaged	2	Port-fwd shield gen damaged
3	One forward weapon damaged	3	Starboard warp engine	3	Port warp engine
4	Superstructure (1)	4	Starboard warp engine	4	Port warp engine
5	Superstructure (5)	5	Starboard warp engine	5	Port warp engine
6	One forward weapon damaged	6	Superstructure (.02)	6	Superstructure (.02)
7	Superstructure (5)	7	Superstructure (1)	7	Superstructure (1)
8	Superstructure (1)	8	Superstructure (2)	8	Superstructure (2)
9	Bridge personnel out	9	One stbd-fwd weapon damaged (.05)	9	One stbd fwd weapon damaged (.05)
10	Bridge personnel out	10	Bridge personnel out	10	Bridge personnel out

DIE ROLL	AFT	DIE ROLL	STARBOARD-AFT	DIE ROLL	PORT-AFT
1	Tractor beam damaged	1	Superstructure (2)	1	Superstructure (2)
2	One aft weapon damaged	2	One stbd-aft weapon damaged (.05)	2	One port aft weapon damaged
3	Superstructure (1)	3	Impulse engine (.02)	3	Impulse engine (.02)
4	Superstructure (1)	4	Starboard warp engine	4	Port warp engine
5	Superstructure (3)	5	Starboard warp engine	5	Port warp engine
6	Impulse engine	6	Starboard warp engine	6	Port warp engine
7	Impulse engine	7	Superstructure (1)	7	Superstructure (1)
8	Starboard warp engine (2)	8	Superstructure (2)	8	Superstructure (2)
9	Port warp engine (2)	9	Superstructure (5)	9	Superstructure (5)
10	Aft shield generator damaged	10	Stbd-Aft shield gen damaged	10	Port aft shield gen damaged

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Standard Panel **SCIENCE C**

DMGD 2	DMGD 1	OPER	LOCK

Sensors

Ship Style

Superstructure Damage

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50													

DAMAGE CHARTS C (ENGINES TO REAR)

DIE ROLL	FORWARD
1	Sensors out 1-2 turns
2	Fwd shield gen damaged (.05)
3	One fwd weapon damaged (.05)
4	Superstructure hit (1)
5	Superstructure hit (2)
6	One forward weapon damaged
7	Superstructure hit (2)
8	Superstructure hit (3)
9	Bridge personnel out
10	Bridge personnel out

DIE ROLL	STARBOARD-FORWARD
1	Sensors out 1-2 turns
2	Stbd-fwd shield gen damaged
3	Starboard warp engine
4	Superstructure (.02)
5	Superstructure (1)
6	Superstructure (2)
7	Superstructure (2)
8	Superstructure (5)
9	One starboard weapon damaged
10	Bridge personnel out

DIE ROLL	PORT-FORWARD
1	Sensors out 1-2 turns
2	Port fwd shield gen damaged
3	Port warp engine
4	Superstructure (.02)
5	Superstructure (1)
6	Superstructure (2)
7	Superstructure (2)
8	Superstructure (5)
9	One port weapon damaged
10	Bridge personnel out

DIE ROLL	AFT
1	Tractor beam damaged
2	One aft weapon damaged (.05)
3	Superstructure (1)
4	Starboard warp engine
5	Starboard warp engine
6	Impulse engine
7	Impulse engine
8	Port warp engine
9	Port warp engine
10	Aft shield generator damaged

DIE ROLL	STARBOARD-AFT
1	Starboard warp engine
2	Starboard warp engine
3	Starboard warp engine
4	Impulse engine (.02)
5	Superstructure (1)
6	Superstructure (1)
7	Superstructure (2)
8	Superstructure (5)
9	Stbd-aft shield gen damaged
10	One stbd-aft weapon damaged (.05)

DIE ROLL	PORT-AFT
1	Port warp engine
2	Port warp engine
3	Port warp engine
4	Impulse engine (.02)
5	Superstructure (1)
6	Superstructure (1)
7	Superstructure (2)
8	Superstructure (5)
9	Port-aft shield gen damaged
10	One port-aft weapon damaged (.05)

STAR TREK 40TH

1983 - 2023

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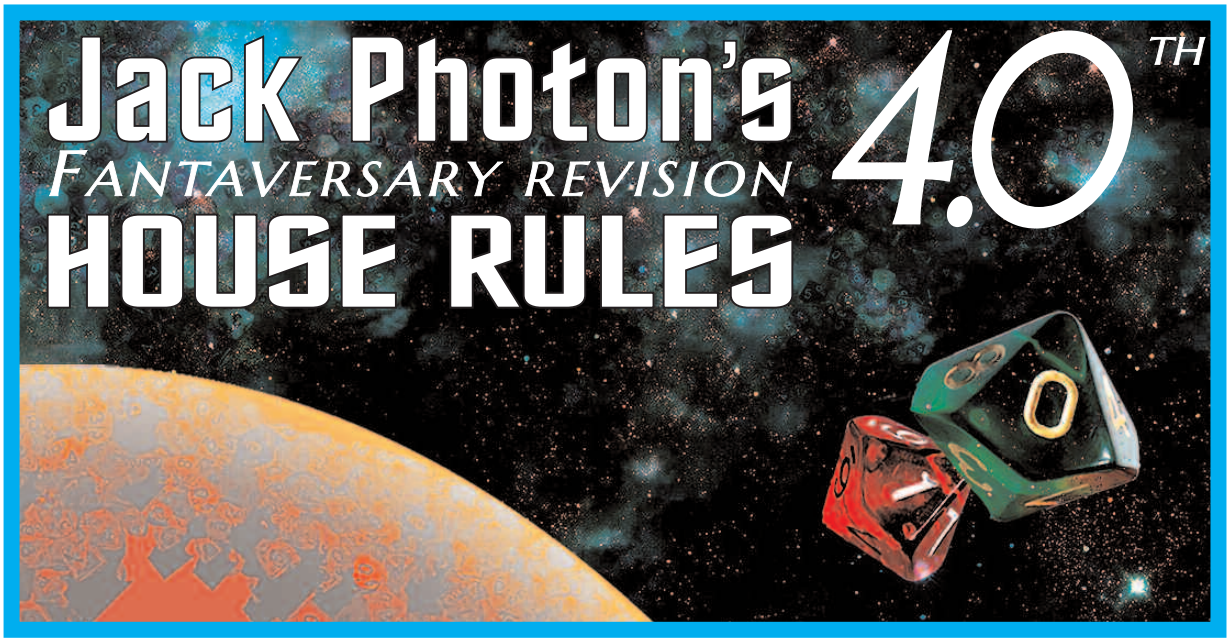

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